Why Liability Insurance Prices Have Risen

John D. Long

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The substantial increase in liability insurance prices during the mid-1980s is a matter of widespread concern. To understand the reason for the increases we need to remind ourselves about the nature of insurance.

Insurance Resembles a Pipeline

Some persons seem to regard insurance as an unending source of money. They liken insurance to a large underground spring of money that flows without ceasing and without running dry.

Alas, insurance, in truth, functions somewhat in the manner of a pipeline. It is the medium through which funds flow. What is paid out in claims, expenses, taxes, and the like must first be collected in the form of premiums, investment gain, or other input. If the output increases, the input must quickly increase or the pipeline will run dry.

The function of insurance is to collect relatively small sums from the many to pay relatively large sums to the few who in any given period (such as a year) suffer insured losses. The sums so collected normally are invested and thereby enlarged prior to payout.

When more than a few suffer losses and/or when the average amount to be paid to each increases, insurance premiums must be promptly adjusted or insurers will become insolvent. Although virtually every solvent insurer has, for safety's sake, an excess of assets over liabilities, the amount on balance is very small compared to the amount of insurance in force.[1] For example, at the beginning of 1986, the approximate net worth of U.S. property-liability insurers was about $71 billion. In absolute terms, this amount appears large. It is tiny compared to the property-liability insurance in force of perhaps $12 trillion or so.

The inexorable fact of insurance life is that what is paid out must first be paid in. Prices have increased recently because claims have increased.

Thus, the "surplus" is not large enough to withstand much of an onslaught in the form of expanded payouts and still leave some protection in case of future unexpected claims. The inexorable fact of insurance life is that what is paid out must first be paid in. Insurance works like a pipeline and not like the well that never runs dry. Prices have increased recently because claims have increased.

Liability Insurance Financial Results

Since about 1970, liability insurance claims have been increasing as a percentage of liability insurance premiums. The increase has been dramatic in recent years.

Combined Ratio. A useful measure is the "combined ratio," that is, the ratio of losses and expenses to premiums. A combined ratio of 100% (that is, unity) is the underwriting break-even point. When this ratio is below 100%, the insurer enjoys an underwriting profit. For example, with a combined ratio of 95%, the insurer earns an underwriting profit of five cents on every dollar of premium. With a combined ratio of 105%, the insurer has an underwriting loss of five cents on every dollar of premium.

For the general liability line of insurance, the combined ratio for 1985 was about 144%. That is, insurers in the aggregate expended $1.44 in claims, expenses, and taxes for every $1 in general liability premiums. For 1984 the ratio for the general liability line was even worse, at about 151%. For the period 1981-1985 the ratio was about 136%. During this period the expense element of the ratio trended downward slightly, from roughly 31% to roughly 25%. Thus, the increases have been attributable to claims.[2] In dollars, the aggregate underwriting loss for this line of business was about $4.6 billion for 1985; about $12.5 billion for 1981-1985; and about $20 billion since 1970.

These figures come from the A. M. Best Company, the reporting service that does for insurers somewhat the same as Moody's and Standard & Poor's do for manufacturers and other types of firms. Clearly, from an underwriting standpoint, the general liability line has been a major source of loss. For 1985 this line, while producing only about 8% of the premiums for property-liability insurers, accounted for about 18% of their underwriting losses. Because of the price increases, the combined ratio for the general liability line is likely to be substantially lower for 1986 than for 1985. Even so, it probably will remain well above 100.

Underwriting results, however, do not reveal all of the relevant information. Insurers also enjoy investment income and capital gains from investments. The figures cited above do not include either type of investment gain. In 1985 insurers reported about $26 billion in investment gain. This amount, however, was only $1 billion in excess of the 1985 underwriting loss for all lines. The industry, therefore, showed for 1985 an operating profit of about $1 billion. Measured as a percentage of the approximately $71 billion of net worth as of year-end 1985, this $1 billion produced a rate of return on net worth of about 1.4%. For 1984, the rate of return was negative at about minus 4%, depending on how certain nonrecurring items were treated in the accounting.

These figures do not support the charge advanced by some critics that insurers are making exaggerated profits. The assertion that insurance companies profit enor-

1. "Insurance in force" refers to the amount insurers would have to pay if every insurer suffered the maximum insured loss in a given period.

2. Under the reporting system used, "claims" include what insurers spend in investigating and defending the claims brought against insureds.

mously from the liability system is clearly not supported by the facts.

The amount of the $26 billion in investment gain that was properly attributable to the general liability line is a matter of conjecture. One crude approach would be to assume that, with 8% of the property-liability premiums being allocable to general liability in 1985, 8% of the investment gain should also be so allocated.

By this approach, the investment gain allocated to the general liability line would be about $2 billion. With the general liability underwriting loss of about $4.6 billion, the net loss, even taking investment gain into full account, would be about $2.6 billion in 1985 on the basis of about $11 billion in 1985 premium. By any reasonable measure, the general liability line has been a heavy loser for the insurers.

Reasons for Soured Claims Experience

The reasons for the increases in the ratio of insured losses to premiums in the general liability line are not difficult to identify. When the claims fall within the ambit of the policy, liability insurers pay up to the policy limits the judgments (or out-of-court settlements) against their insureds. They also defend their insureds against such claims. Three reasons account for the bad recent claims experience of insurers:

The number of claims relative to the number of policies outstanding has risen sharply because relatively more policyholders in any given year are being sued.

1. **The number of claims relative to the number of policies outstanding has risen sharply** because relatively more policyholders in any given year are being sued. This fact is indisputable. If the insured becomes liable for a judgment, the insurer must pay it up to the policy limit. Whether or not the insured becomes liable, however, the insurer must defend the insured.

2. **Some courts are construing liability insurance policies increasingly in favor of insureds against insurers.** This tendency of the courts to find coverage where the insurers did not intend to provide coverage represents what some insurer officials call "court-made insurance." It has been a major contributor to the increase in liability insurance prices.

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3. For the cases where the insured becomes subject to a judgment (or where the insurer chooses to settle), the **average size of the claims has sharply increased.**

No Practical Alternative to Price Increases

With liability insurance being sold in a competitive market, insurers individually and in the aggregate have had only a few possible responses. One was to withdraw from selling liability insurance. Some chose this response, at least in particular states.

Another possible response was to refrain from selling liability insurance to certain types of insureds. With the exception of certain especially plagued types, such as daycare centers and corporate directors, insurers have generally eschewed this approach because of a sense of social responsibility and because of pressure from governmental regulators.

The principal short-run reactive weapon of insurers has been to raise their prices to attempt to recoup some of their losses and to anticipate even further unfavorable developments in claims experience in the future. The alternative was insolvency, which would have been disastrous to the insuring public.

Another possible response was to change significantly the nature of the liability insurance contract. Many insurers are in the process of adopting the new "claims-made" liability policy, but they are likely to complete the transition only over a long-run period. The relief afforded by this change will be slow in manifesting itself.

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Insurers have virtually no choice but to continue to increase their prices until society decides that it wishes to place a ceiling on the growth of tort liability claims relative, say, to gross national product. Sooner or later society will make this decision. □

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In this issue . . .

Projecting Indiana Households

The 1984 rates are virtually unchanged from 1980, which may foreshadow a slowdown or even a reversal in the growth of headship rates.

There has been a sharp rise in single-parent families, especially female-headed families. The headship rate for husband-wife families has fallen as the overall family headship rate has remained nearly constant since 1960.

If trading up fails to revive, the housing market for higher priced homes could be weaker than in the 1970s.

During both halves of the 1980s, household heads in the 30-34 bracket will increase substantially, though less than in the 1970s.

The demand for housing by the over-65 group will be weaker than in the 1970s.

The growth in the number of households will be concentrated in the middle age groups as the baby boom bulge moves along. This growth could provide solid demand for single-family homes in the upper price ranges.

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In this issue . . .

In November 1986 the Business Outlook Panel made presentations in fourteen Indiana cities. Approximately 3,000 people attended these sessions, which received extensive coverage by radio, television, and print media.

Yet the structure of the programs, with limited time and a panel format, did not permit a full elaboration of the forecast and the reasons behind it. This forecast issue of the *Indiana Business Review* attempts to remedy this deficiency.

The authors of the pieces on the national economy and its components are all members of the School of Business's Outlook Coordinating Committee, which constructs a forecast and arranges for the panel presentations. Many of the authors of the sections on the state and regional economies participated in the panels. We hope that the time spent will lead to a good forecasting record and that this information will interest our readers.

Bruce L. Jaffee

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The Economic Outlook for 1987: Consumption Up, Investments Down

Bruce L. Jaffee

Professor of Business Economics and Public Policy, Indiana University School of Business

The overall performance of the U.S. economy in 1986 was disappointing. Although real GNP grew approximately 2.6% and a recession was avoided, this gain is below the approximately 3% level that is necessary in the long run to keep up with growth in the labor force. This slow growth occurred even though the economy was stimulated last year by a number of significant forces that are unlikely to be repeated in 1987.

For example, 1986 saw:

- Sharp declines in oil and other commodity prices;
- Tremendous improvements in the inflation rate;
- Sharp declines in interest rates;
- Unexpectedly strong performances in both the stock and bond markets; and
- Strongly stimulative monetary and fiscal policies.

The bad news for 1987 is that we predict a general economic performance that will not match even the sluggish growth of 1986. On the other hand, it is unlikely that we will see a recession in 1987. As a result, the upturn in the economy, which began in

Table 1
1987 Forecast
(Percentage Changes from Previous Year Unless Otherwise Noted)

	(Estimated) Year 1986	*(Forecast) Year 1987*
Gross National Product ($82)	2.6%	2.1%
Disposable personal income ($82)	3.2%	3.1%
Personal consumption expenditures ($82)	4.2%	3.9%
Investment ($82)	2.5%	0.5%
Nonresidential	0%	0.5%
Residential	14%	5%
Inventory ($ current in billions)	20	35
Net exports ($ current in billions)	150	130
Exports	373	415
Imports	523	545
Government purchases ($82)	4.1%	3.4%
Federal defense	5.9%	3.0%
Federal civilian	3.0%	2.5%
State and local	3.8%	3.6%
	Other Items Year 1986	*Year 1987*
Dow Jones Industrials	1800	1900
Mortgage rate	10%	9.5%
AAA long-term bond rate	9.5%	9.0%
Prime rate	8.0%	7.5%
Inflation rate (Consumer Price Index)	1.8%	3.5%
Housing starts (millions of units)	1.9	1.7
Automobile sales (millions of units)	11.4	9.5
Unemployment rate	6.9%	6.7%
Savings rate	4.0%	3.5%

1982, will become the second longest postwar recovery period. The only longer recovery period was the 1961-69 period, which was stimulated by the Vietnam War.

Personal consumption. One of the strongest sectors in 1987 is likely to be personal consumption. Rising incomes, individual tax cuts, lower interest rates, and a taking of stock and bond market profits are likely to put personal consumption growth for the year at near the 4% level.

Investment. On the other hand, the weakest sector of the economy is likely to be investment. Higher corporate taxes, elimination of the investment tax credit, accelerated depreciation, and elimination of numerous tax shelters are likely to lead to virtually no growth in the investment sector of the economy.

Exports. Although net exports will remain in substantial deficit once again in 1987, some improvement is expected because:

1. The value of the dollar has weakened substantially in the last two years; and
2. Exports should increase as the economies of our trading partners improve.

Inflation. The inflation rate is likely to increase significantly from 1986's rate of less than 2%, but still, at approximately 3.5%, it will be substantially below the rates of the early 1980s.

The inflation rate is likely to increase significantly from 1986's rate of less than 2%, but still, at approximately 3.5%, it will be substantially below the rates of the early 1980s.

Housing and autos. Housing starts and automobile sales are likely to be weak sectors of the economy. They are unlikely to achieve the levels attained last year.

Unemployment. As a result of this picture of slow but mixed growth in the economy, we believe it is unlikely that there will be a significant improvement in the unemployment rate in 1987.

Tax reform. One of the great uncertainties for 1987 is the impact of tax reform. We expect that the new tax bill will increase federal government revenue in 1987 by approximately $11 billion, mostly because of the abnormally high level of capital gains that were taken in 1986. On the other hand, reduced personal withholding in 1987 is likely to provide a boost in personal consumption expenditures. For at least the next three years, tax reform will be mildly stimulative because the cuts in individual rates are more rapid than the increases in corporate taxes.

For at least the next three years, tax reform will be mildly stimulative because the cuts in individual rates are more rapid than the increases in corporate taxes.

Details for some of the major sectors of the economy are described in the sections that follow. **Table 1** provides a summary of the 1987 forecast.

Consumption Spending

R. Jeffery Green

Professor of Economics, Indiana University

The consumer has been leading the economic recovery for almost four years. The tax cuts of 1981 and 1982 set the stage for the rally by increasing the disposable income of consumers. In the two years from the third quarter of 1982 to the third quarter of 1984, real disposable personal income grew at an average annual rate of 4.7%. Total real consumption expenditures grew at an average annual rate of 4.6%, and total real final sales grew at an average annual rate of 4.4%. Thus, the growth in disposable income led to the rise in consumption expenditures, which in turn fueled the recovery.

The fact that consumption expenditures did not grow at quite the rate of increase in disposable income meant that consumers could increase their savings at the same time that they were increasing expenditures. Total personal savings rose by 16% over the two years ending in the third quarter of 1984, while the personal saving rate remained at a fairly high level of about 6.7% over the period.

1985-1986: Spending Up, Savings Down

In late 1984 the growth of disposable income began to slow. From the third quarter of 1984 to the third quarter of 1985, real disposable income rose only 1.7%. However, real consumption expenditures grew by 3.9% over the period as consumers took on more debt and lowered the percentage of their income saved. The saving rate declined to 4.2% in the third quarter of 1985. Thus, the consumer continued to lead the recovery but it became more difficult.

From the third quarter of 1985 to the third quarter of 1986, real income growth picked up to 3.4%. The consumer responded by increasing real consumption expenditures 4.6%. As a result, the saving rate dropped to 2.3%.

Unless the economy grows more rapidly, which we do not expect, it will get more and more difficult for the consumer to increase spending.

An additional factor helping to spur consumption expenditures has been the sharp drop in interest rates over the past several years. That, coupled with auto dealer incentives, has made the purchase of autos and other durable goods very attractive. However, unless the rest of the economy grows more rapidly, which we do not expect, it will get more and more difficult for the consumer to increase spending.

1987: Lower Taxes, Higher Disposable Income

In considering the probable course of consumption expenditures in 1987, it is important to examine both the condition

Table 1
Forecasts of Real Disposable Personal Income and Real Personal Consumption Expenditures (seasonally adjusted annual rates)

	1986:4	1987:1	1987:2	1987:3	1987:4
Real disposable income	2619.2	2655.8	2679.0	2701.5	2721.9
% change (annual rates)	1.2	5.7	3.5	3.4	3.1
Real consumption expenditures	2456.2	2480.7	2505.4	2529.0	2550.8
% change (annual rates)	0.9	4.1	4.0	3.8	3.5

Table 2
Real Disposable Personal Income and Real Personal Consumption Expenditures—Annual Data (seasonally adjusted annual rates)

	1985	1986 (estimate)	1987 (forecast)
Real disposable income	2528.0	2609.3	2689.5
% change (annual rates)	2.3	3.2	3.1
Real consumption expenditures	2324.5	2421.9	2516.5
% change (annual rates)	3.5	4.2	3.9

consumers find themselves in now and the probable course of real disposable income and interest rates in the year ahead.

As indicated above, the current position of consumers is not very good. The saving rate is at a very low level, so it is likely to rise during the coming year. That implies a growth in consumption expenditures that is less than the growth in disposable income over the coming year. Further, the very strong recent performance of auto sales and sales of other durables means that consumers have relatively new durable goods and will be less interested in replacing them. Also, the decline in interest rates seems about over, so financing is unlikely to be more attractive in 1987 than it was in 1986.

All of the developments in 1987 are not negative, however. The recently passed tax reform bill reduces individual taxes while increasing corporate taxes. Whatever the negative effects of this elsewhere in the economy, the result will be lower taxes and, hence, higher disposable incomes for consumers in 1987. Because of the phasing in of the tax changes, these reductions for consumers will be even larger in 1988.

We expect real disposable personal income to grow about 3.4% from late 1986 through the end of 1987 (see **Table 1**).

We expect real disposable personal income to grow about 3.4% from late 1986 through the end of 1987.

Consumption expenditures are expected to grow at a 3.2% rate from the third quarter of 1986 through the end of 1987, thus allowing the personal saving rate to rise gradually during 1987 (see **Table 2**).

Auto sales. While total consumption expenditures are forecast to rise, auto expenditures should be lower in 1987 than in 1986. The extraordinary incentives last fall caused many consumers to purchase new cars, and many of these sales were borrowed from this year. Last year was the fourth straight year in which total auto sales have exceeded 10 million units. As a result, the average age of the fleet has declined, and there is less need for replacement. We are expecting total sales to run at about 9.5 million units in 1987.

Oil prices. In contrast, one of the strongest categories of consumer spending in 1987 is likely to be for gasoline and oil. The recent decline in oil prices and the addition of new cars to the fleet are apparently inducing consumers to do more driving. At the end of 1985, real expenditures for gasoline prices were no higher than they were in 1977. However, since then gasoline prices dropped by 27% in only nine months. At the same time, gasoline and oil expenditures rose 12%.

We expect these expenditures to continue to rise in 1987 as oil prices stabilize at fairly low levels. This increase in demand is not necessarily good news since it aggravates the trade deficit and may set the stage for higher oil prices down the road.

Investment Outlook

Fred Bateman

Chairperson and Professor of Business Economics and Public Policy, Indiana University School of Business

Within the forecast of a generally sluggish economy in 1987, investment may well prove to be the poorest performer. It most certainly will not be a leading area in whatever growth occurs, and it may indeed be a drag on aggregate economic performance. In fact, the only bright prospect is that producers may decide to replenish inventories, which currently are at comparatively lean levels and declining.

Private investment. Gross private domestic investment advanced dramatically during 1983, reaching a plateau during the

first quarter of 1984. Its level has remained relatively unchanged since then. Sharply declining inventories have largely offset generally modest growth in residential and nonresidential fixed investment. For 1987, we expect a generally flat performance, with growth on the order of .5 to 1% during the year. This would be approximately the same result experienced during 1985, but substantially below that of 1984. The trend over the past several years thus indicates a notable slowing down of business spending for new plant and equipment.

For 1987, we expect a generally flat performance, with growth on the order of .5 to 1% during the year.

Residential construction. We also expect spending on new residential construction to be below 1986 levels. Although single-family dwellings could continue at or near current levels, rental units should decline, perhaps substantially. We forecast residential housing starts for the year of 1.7 million units, down from approximately 1.9 million during 1986. Contributing to this drop in residential housing starts are:

- Changes in the tax laws; and
- The forecast leveling off of interest rates after months of decline.

The revised tax laws. There is a major imponderable in this year's outlook: the revised tax code. Its most pronounced effect may well be realized in the investment area.

There is a major imponderable in this year's outlook: the revised tax code. Its most pronounced effects may well be realized in the investment area.

As noted above, incentives for construction of rental housing will be sharply reduced by changes in the tax laws. New apartment construction could make a sharp one-time adjustment downward in response.

Similarly, changes in the handling of depreciation and in the elimination of investment tax credits will discourage some new investment by business that otherwise (under the old tax provision) would have occurred.

Thus, from the short-term viewpoint of a single year, the revised tax system's reduced incentives for business investment could exert strong negative effects on this sector of the economy. These effects will be felt at a time when other areas show little promise of offsetting advances. They could, therefore, contribute considerably to the generally weak performance that is forecast for investment and for the economy overall.

Over the longer term, however, the new tax structure, through its supply-side effects on spending, saving, and investment, should reestablish investment decision making on a more purely economic basis. If it does—and that was one stated intention of its creation—the result should be a stronger economic performance in the years beyond 1987.

Government Fiscal and Monetary Policy and Inflation

George W. Wilson

Distinguished Professor of Business Economics and Public Policy, Indiana University School of Business

There are two government sectors: the federal—which is constantly written about—and state and local—which is not. The recent estimates for 1986 will total about $330 billion (National Accounts basis) for the federal, or 9% of GNP, and state and local outlays of some $415 billion, or 11% of GNP. The outlook for the federal government for fiscal 1987 is for much of the same *on a GNP basis*.

The deficits one reads about include items such as transfer payments, subsidies, and the like. These are things included in the "deficit," which last year (FY 1986) totalled $220 billion but is expected to drop to the $170-$190 billion range in fiscal 1987. Thus, the federal stimulus, depending upon the "neutrality" of the new tax bill, will be down some $30+ billion from fiscal 1986.

The federal stimulus, depending upon the "neutrality" of the new tax bill, will be down some $30+ billion from fiscal 1986.

In terms of fiscal policy at the federal level, in essence there is none—that is, none that can, or will, be deliberately and consciously countercyclical in the Keynesian sense. Indeed, all efforts will be expended upon reducing federal spending further, and it will, therefore, be a net depressant.

This leaves monetary policy as the only game in town. Depending upon what inflationary pressures build, the Fed doubtless will continue a policy of moderate ease.

No serious inflationary pressures. It is difficult at this juncture to see any serious inflationary pressures. Oil prices may rise, but in the midst of still substantial excess capacity, a relatively quiescent and accommodating wage policy adopted by labor (both organized and otherwise), a limited response of prices of imports to devaluation, plentiful farm supplies, a relatively high unemployment rate, fears of possible recession, and substantial excess capacity in manufacturing and probably housing, inflationary pressures are not bountiful, especially with continued slow growth.

Sooner or later, if the sluggish growth accelerates and inflationary pressures rise, the Fed will have to be more careful and the move toward budget balance will become more sensible. We don't see this happening until after 1987.

A General Addendum about the Economy

Our forecast, like most, predicts from 2 to 3% real growth in aggregate GNP, an unemployment rate in the 6 to 7% range, and modest increases in interest and inflation rates. Generally, the forecasts are on the

dullish side with little to get excited about except that few expect a recession.

Most observers would refer to a less than 3% growth of real GNP as well below the usual *expansion* of capacity (due to labor force plus productivity increase), plus an extra amount needed to utilize existing excess capacity more fully. One can, of course, define the full employment unemployment rate as 6 to 7%, thereby solving that problem.

Poverty is on the increase, as are the numbers of homeless people and plant closings.

Because inflation has been and is expected to stay low, one might argue that the twin problems of inflation and unemployment at long last have been solved. The forecast should give rise to rejoicing, not petulant comments about sluggishness! Yet few economists (or others) are particularly cheerful about next year's prospects. Not only is there considerable doubt about the full employment unemployment rate, but also the employment structure has workers shifting from high-paying goods-manufacturing jobs to much lower-paying, often menial, jobs in the service sector. Poverty is on the increase, as are the numbers of homeless people and plant closings, which are announced almost daily.

The expansion is also very uneven among industries and regions. Some sectors are strong (for example, consumer spending), others weak (for example, business plant and equipment spending). Some industries are strong while others are weak (agriculture, petroleum, and much of manufacturing). Some regions are booming, others are near or in recession.

This lopsidedness of the expansion, along with the persistence of the twin deficits, reinforces the belief that, while stable prices and the general absence of a recession next year in the forecasts are good news, there is considerable scope for concern, if not alarm, at the way the current expansion is unfolding. This is undoubtedly related to the industrial transition now occurring, but it is also somehow linked to our growing inability to correct some of the adverse effects.

While stable prices and the general absence of a recession next year in the forecasts are good news, there is considerable scope for concern, if not alarm, at the way the current expansion is unfolding.

Fifty years after the Keynesian "revolution," we seem more at sea in a policy sense than, say, in the early 1960s, when the Keynesian medicine was first applied, and in the halcyon few years that followed. Indeed, we are increasingly influenced by events far beyond our shores, by the policies and economic development of other nations. Our relative world strength and influence have decreased. Fiscal policy is unusable with big deficits. Monetary policy must concern itself with capital inflows from abroad. The supply-side tapestry seems full of holes and monetarism largely discredited.

In short, it is difficult to know what to do, how or whether to do it, and what results to expect from actions that earlier seemed so straightforward and certain. Our economy is awash with uncertainty even as the expansion continues.

The International Economy

Michele Fratianni

Professor of Business Economics and Public Policy, Indiana University School of Business

The United States is in its fourth year of economic expansion following the recession of 1980-82. Although economic recovery for the other six G7 countries (Canada, Japan, West Germany, France, the United Kingdom, and Italy) started somewhat later than in the U.S., the present business-cycle expansion has exceeded the average length of recoveries in the postwar period, which is about two and a half years.

Real economic growth slowed down during the first half of 1986 in the G7 countries, but it picked up during the second half of the year. Output growth for 1986 is expected to be about 2.7%, slightly down from the 3% of 1985. Inflation in 1986 is expected to be lower than in 1985: 3.3 vs. 3.8% when measured by the GNP or GDP (Gross Domestic Product) price deflator.

External imbalances. External imbalances in the G7 countries, on the other hand, have become more pronounced. The U.S. current-account deficit—the difference between exports and imports of goods and services, plus net transfer payments, plus interest paid by government to foreigners—is running at an annual rate of $150 billion. That is $30 billion higher than in 1985.

Japan's and West Germany's current-account surpluses have risen, both in absolute amount and as a proportion of their market-value GNP. The French and Italians also are enjoying sizable current-account surpluses, thanks in large part to the "oil bonus". The only deficit country in the G7, other than the U.S., is Canada.

Exchange rates. Exchange rates underwent sharp realignments in 1986, reflecting the sheer size of the external imbalances and coordinated official interventions in the exchange markets among the G7 countries. The sharpest realignments took place in the yen-dollar and the DM/dollar exchange rates. The yen has appreciated from 220 to 150-155; the deutsche mark from an all-time high of 3.53 to 2.00. The dollar has also lost value in relation to the Italian lira, the French franc, and the British pound. The dollar has not depreciated with respect to many of the currencies of the Pacific Basin countries because these currencies peg their values to the dollar.

Government policy. The U.S. external imbalances and the exchange-rate realignments emerged as the major domestic and international economic issue of 1986. The U.S. position—presented at the Tokyo Summit in May—is that current-account-

surplus countries such as Germany and Japan must expand their economies to facilitate the reduction of the U.S. trade imbalance. The depreciation of the dollar in the foreign exchange markets, by itself, is inadequate to bring about the desired correction.

Japan and West Germany have been reluctant to prime the pump in their economies for fear of rekindling inflation expectations. These two countries have pointed out, furthermore, that the U.S. external imbalances result from an excess of domestic absorption over domestic production. The excess of domestic absorption can be traced back, in turn, to the U.S. government budget deficit. For example, in the second quarter of 1986 the combined deficit of the federal, state, and local governments was put at $177 billion, the current-account deficit at $138 billion.

The argument of the Germans and the Japanese that the U.S. external imbalance is mostly the result of domestic policies is quite compelling. Yet the U.S. Congress is prepared to deal with the trade deficit in a way that will be damaging to both the U.S. economy and the rest of the world. Unable or unwilling to reduce the growth of government expenditures, Congress would resort to protectionist legislation to relieve pressure in the affected industries.

The excess of domestic absorption can be traced back to the U.S. government budget deficit.

We believe that the Germans and the Japanese will take expansive policy actions to reduce the possibility of a trade war. Monetary policy has already become more expansive both in the U.S. and abroad. The Japanese have announced planned reductions in tax rates and increases in government expenditures in exchange for a stabilization of the yen/dollar at current rates of 150-160.

The depreciation of the dollar, a depreciation that began in March 1985, seems finally to have brought some of the expected fruits. The trade figures for August through October 1986 indicate significant reductions in the trade imbalance. Although it is far too early to say whether these data represent a sustainable trend, we predict an amelioration of the U.S. external imbalances.

Forecast. We forecast the difference between exports of goods and imports of goods at -$130 billion and the current-account deficit at 2.5% of GNP in 1987. The reversal in the trend of the external imbalances will slow down the downward pressure on the dollar, but not to a complete stop. There is still additional room to go. Our target rate for the DM dollar is 1.80, for the yen dollar 140.

Interest Rates and Financial Markets

Ned Hill

Associate Professor of Finance, Indiana University School of Business

Interest rates are one of the more difficult pieces of the economic pie to forecast. They have the habit of changing rapidly on the basis of slight changes in any number of factors. Four factors are particularly important:

1. The demand for loans from the business, personal, and government sectors;
2. The supply of money from domestic and foreign sources;
3. Price levels of both domestic and imported goods and services; and
4. Actions taken by the Federal Reserve (which influence the supply of money).

Supply of and demand for money. At present, we see no signs of any significant rebound in the economy during 1987. This flat economy will keep the business sector's demand for funds low. Consumers will continue their strong borrowing trends and will keep rates from falling too far. The government, in spite of attempts to lower the deficit, will also be a heavy borrower. This heavy borrowing will not, however, cause rates to increase because foreign investors will continue to supply a large share of investment money in U.S. debt. Foreign investors are interested in our capital and money markets because U.S. Treasury and other securities continue to provide high yields in comparison to many foreign investment opportunities.

A narrowing trade deficit should send the price of imported goods up a bit, causing the inflation rate to creep up slightly, but domestic prices should remain fairly stable.

Prices. Barring any drastic OPEC agreements to limit the supply of oil, overall prices should remain relatively stable this year. A narrowing trade deficit should send the price of imported goods up a bit, causing the inflation rate to creep up slightly, but domestic prices should remain fairly stable. These factors should tend to keep rates at their current levels or send them up slightly.

Federal Reserve actions. The Federal Reserve will be pressured to further lower the discount rate to stimulate the economy, but it likely will resist a drop much below the current 5.5% for fear of stimulating inflation. The Fed has kept inflation rates relatively low for several years now, and it plans to maintain its record.

Short-Term Rates

The most quoted short-term rate is the prime rate or base rate. Many business loan rates are tied to the prime rate. This rate, now standing at 7.5% in major banks, should range between 6.5% and 8.5% over 1987. The Treasury bill rate is another short-term rate. We expect three-month T-bills to be in the range of from 4 to 6%.

The prime rate should range between 6.5% and 8.5% over 1987.

Long-Term Rates

Inflation should also remain low during 1987, causing long-term rates to remain solid or even dip slightly. Mortgage rates, now

Indiana's Economy in 1987: Slower Than the U.S., But Still Growing

Richard L. Pfister

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The relatively slow growth of the U.S. economy in 1987 means relatively slow growth for the Indiana economy. In fact, Indiana's growth in 1987 is forecast to be even slower than the U.S. growth. Real GNP growth for the U.S. is expected to be about 2.1% in 1987, while real personal income for Indiana is expected to grow by only 1.8%.

Real GNP growth for the U.S. is expected to be about 2.1% in 1987, while real personal income for Indiana is expected to grow by only 1.8%.

The slower growth in Indiana will occur because of weakness nationally in housing, nonresidential fixed investment, agriculture, and autos. Weak growth in nonresidential fixed investment, autos, and housing hurts the state's major industries in metals and electronics. Agriculture is more important relatively in Indiana than in the U.S., so its continued weakness slows overall activity more in the state than in the nation.

The Indiana economy should receive a mild boost from a pickup in export activity and some decline in import competition because of exchange rate changes.

Employment

Indiana's employment growth in 1987 is also expected to be relatively low—about 1.7%. This growth rate will mean only about 40,000 new jobs in the upcoming year, which is considerably less than the 70,000 increase in 1986. Manufacturing employment is expected to stabilize in 1987 after declining in 1986 and 1985. Service sector employment (nongoods production), which has been growing rapidly, will grow at a considerably slower rate in 1987. This slower growth of the service sector reflects Indiana's weak growth in personal income.

The employment developments are a continuation of the relative shift from production of goods to production of services. This shift is, of course, taking place in the nation as well as in the state. One consequence of the shift is to slow the growth in personal income because many of the service jobs are part-time and have lower wages than the manufacturing jobs that have been lost in Indiana.

Indiana's employment growth in 1987 is expected to be about 1.7%. This growth rate will mean only about 40,000 new jobs in the upcoming year.

The Recovery

The recovery in Indiana since the trough in late 1982 has been comparable in percentage terms with the national recovery. Indiana's recovery in 1984 was stronger than the nation's but was weaker in the other recovery years.

Despite four years of recovery, Indiana's manufacturing employment in 1986 was nearly 18% lower than it was in 1979. National manufacturing employment in 1986 was only 9% below the 1979 level. Manufacturing declined much more in Indiana from 1979 to 1982 than it did in the nation. Despite similar changes since 1982, Indiana remains farther below its 1979 level of manufacturing employment than does the nation.

Of the seven years since 1970, only two (1984 and 1986) showed more growth than is being forecast for 1987.

Even though this forecast for 1987 is not a robust one, it does call for some growth. Of the seven years since 1979, only two (1984 and 1986) showed more growth than is being forecast for 1987. Except for 1984, the entire period since 1979 has been one of decline or weak growth for Indiana.

A note of uneasiness arises because the national forecast assumes a continued high

about 10%, should dip slightly to a range of 8.5% to 10%. Long-term AAA bonds (now about 9.2%) should yield in the range of 8% to 9.5%.

Stock Market

Continued low interest rates will keep investors in the stock market, in spite of tax law changes that remove the tax break for capital gains. Money market mutual fund rates are not much better than bank savings account interest. Thus, stocks, so to speak, are the only game in town. In spite of all the negative publicity stocks have received from insider trading scandals, interest in the stock market will remain high. The Dow Jones average should remain at least above 1800. We would not be surprised if the Dow exceeded 2100 this year. But unless the overall economy begins to accelerate, we would not expect to see the Dow stay over 2100 during most of 1987.

Money market mutual funds rates are not much better than bank savings account interest. Thus, stocks are the only game in town.

Housing

Tax law changes will cause a severe drop in investment funds available for multiple family dwellings and other investor-related housing projects. Single-family dwellings should continue at the same pace, however, especially in view of low mortgage rates. The overall effect is a drop in housing starts to 1.7 million units from the current level of around 1.9 million units.

Because interest on personal debt no longer will be deductible for tax purposes, homeowners will find home equity loans to be a relatively cheaper source of debt. It may not be uncommon for car dealers to work out arrangements with banks to finance cars through second mortgages on homes. The risk is that failure to meet payments may result in losing the family home instead of just having the family car repossessed. □

level of consumer spending. If the nation's consumers should decide to return to a higher level of personal savings, the results would be a weaker national economy with perhaps a mild recession. That, in turn, would probably plunge Indiana into a recession. But the usual indicators of recession are not evident at this time, so the threat of a recession is not considered to be a serious one.

Indianapolis

Robert Kirk

Professor of Economics, Indiana University-Purdue University at Indianapolis. Data assistance provided by Ron Martin, Indiana Employment Security Division.

Employment should continue to grow in 1987, but at a somewhat lower rate than the 3% annual rate in 1986.

Although real manufacturing output in Indianapolis has increased from the 1982 recession low, manufacturing employment peaked in the third quarter of 1984 and has fallen about 6,000. The Western Electric plant closing represented a significant part of the loss. Can the manufacturing employment level be maintained in 1987?

On the positive side, the fall in the foreign exchange value of the dollar should promote demand for Indianapolis's exports. However, this optimism is dampened by the fact that, although the dollar has fallen relative to the currencies of France, Germany, and Japan, it has increased relative to those of South Korea and Canada (the largest trading partner of the U.S. in terms of total trade) and declined only slightly relative to Taiwan. A few Indianapolis firms have indicated that they are targeting markets in the Pacific Rim, where gaining a market share will be a challenge.

The Automobile Industry

A forecast for Indianapolis must include a comment about the automobile industry. In 1986, the industry maintained production in the face of increasing inventories and then used reduced rate financing to sell cars. This strategy is not expected to be used to the same degree in 1987. When inventories exceed satisfactory levels, production levels will be reduced.

Why might 1987 sales levels be reduced somewhat? For one reason, the length of the average maturity of the new car loan from finance companies has increased to 51 months. Although the monthly car payment has remained at a reasonable level, because the number of months to pay has increased, some consumers won't be in the market as soon as previously.

On a positive note, the GM truck and bus plant in Indianapolis will be supplying the new Fort Wayne truck assembly plant when it opens in 1987. Also, as Japanese firms build their assembly plants in Indiana and nearby states, central Indiana becomes an attractive location for auto parts suppliers.

Recent Employment Change

How has Indianapolis done recently in employment growth? **Table 1** shows recent employment change for Indianapolis and selected competing metropolitan areas. Only data since 1984 are used because definitions of metropolitan areas changed in 1983.

Table 1 shows how cyclical change and international competition can differentially affect the performance of metropolitan area economies because the mix of industries differs and local firms within an industry gain or lose market share. Indianapolis continues to be vulnerable, as are other Midwestern cities, to corporate decisions that are made elsewhere but impact heavily on local economies.

Manufacturing Output

Real manufacturing output is a better indicator of economic activity than employment because employment does not reflect improvements in labor productivity. **Table 2** shows how manufacturing output of selected metropolitan areas was affected by the recession and recovery through 1984.

Table 1
Recent Employment Change for Selected Metropolitan Areas (1984:1 = 100, Seasonally Adjusted)

Metropolitan area	*1985:1*	*1986:1*	*1986:2*
Total employment			
Columbus, Ohio	104.4	111.2	113.1
Detroit	105.1	108.5	110.3
Cincinnati	104.3	109.5	109.9
INDIANAPOLIS	**103.9**	**107.0**	**108.5**
Chicago	106.5	107.3	107.9
Louisville	103.3	107.2	107.9
St. Louis	102.7	105.3	105.4
Manufacturing			
Columbus, Ohio	102.9	103.4	107.1
Detroit	106.3	106.4	106.4
Cincinnati	101.4	103.7	101.7
St. Louis	99.4	100.2	99.2
Chicago	100.4	97.0	95.7
INDIANAPOLIS	**100.2**	**96.8**	**96.4**
Louisville	98.6	94.9	95.7

Table 2
Change in Real Manufacturing Output for U.S. and Selected Metropolitan Areas (1979 = 100)

Area	*1982*	*1984*	*Change 1982-84*
U.S.	87.6	103.8	16.2
Columbus, Ohio	86.1	103.8	17.7
Cincinnati	84.7	98.0	13.3
St. Louis	81.9	100.8	18.9
INDIANAPOLIS	**80.3**	**93.7**	**13.4**
Chicago	78.6	88.3	9.7
Louisville	78.5	91.3	12.8
Detroit	66.4	84.8	18.4

The calculation of output is not adjusted for different industry mixes among the metropolitan areas. Detroit's relatively strong performance in Table 1 must be viewed in the context of its severe contraction in output in Table 2.

Construction

Indianapolis has enjoyed a construction boom, supported in residential construction by relatively strong population growth. **Table 3** compares Indianapolis with competing metropolitan areas.

Indianapolis has done well, considering the difficult time some parts of the state have had. While the other 84 counties, in the aggregate, have experienced net outmigration, the eight counties comprising the Indianapolis metropolitan area are estimated to have had no net outmigration during 1984-85. However, vacancy rates for multifamily housing are at relatively high levels, partly because households are switching from rental units to home ownership. Rent increases will be selective because of market conditions. The level of apartment construction is expected to decline somewhat.

With several major commercial projects in progress and others to begin in 1987, construction employment should be maintained. This type of expenditure stimulates the economy; it is associated with strong earnings and employment multiplier effects on the local economy. Dollars are spent locally rather than flowing elsewhere.

Table 3
Recent Population Change (Percent) for Indiana and Selected Metropolitan Areas

Area	*1980-85*	*1980-83*	*1983-85*
Columbus, Ohio	3.5	2.0	1.5
INDIANAPOLIS	**3.1**	**1.6**	**1.5**
Chicago	1.9	.8	1.1
St. Louis	1.5	.8	.7
Louisville	1.0	.9	.1
Cincinnati	.7	.3	.5
Detroit	-3.8	-3.5	-.3
Indiana	.2	-.2	.4
Rest of Indiana	-.6	-.7	.1

Indianapolis has enjoyed a construction boom, supported in residential construction by relatively strong population growth.

Will the new commercial space be leased? What are the sources of demand for this space? They include financial, business, and health services, as well as retailing, real estate, and insurance. There have been large employment increases in these industries. However, the outlook is mixed for several reasons.

A Mixed Outlook

As people's incomes increase, the opportunity cost of their time increases. To economize on their time, they substitute market-provided goods and services, such as accounting services and eating out. A large number of restaurants have opened in Indianapolis. Net increases in employment may be more difficult to obtain as some new restaurants take the place of former ones, resulting in reduced net increase. On the other hand, as more firms adopt microcomputers as a way to handle data processing internally, fewer firms will need to "contract out" their data processing to specialized data processing firms, which have been a source of employment growth in the past.

Temporary-help agencies are another industry that has experienced a high rate of employment growth since 1982. When firms came out of the recession, they were uncertain about the length and strength of the expansion and, therefore, they hired temporary help. It is not clear whether the growth of temporary help is a cyclical phenomenon or a longer lasting feature in the 1980s labor market. It may be that both factors are operating. Some people who formerly worked in manufacturing or hospitals now work for temporary-help agencies and therefore are classified as business services employees. Thus, some of the decline in manufacturing employment shows up in the business services sector.

The Pan-American Games will have a temporary impact on employment in restaurants, hotels, and transportation services. More important in the long run, the Pan Am Games are another in a series of nationally visible events that draw attention to Indianapolis and induce nationally based firms to establish regional offices in one of the new office buildings.

Income Distribution

The financial, business, and health services areas have been sources of employment growth. These areas represent a wide range of income-paying jobs. There is some evidence at the national level that the middle class may be shrinking. Two tentative explanations for this are new workers and new technology.

1. **New Workers.** Job tenure is limited for many people, especially baby-boomers and women, who entered the labor force during the 1970s in record number. As these persons increase their job tenure, their incomes should increase correspondingly—and the shrinking middle class phenomenon will disappear.

2. **New Technology.** Many blue-collar, middle-income jobs have been eliminated by plant closings and the substitution of technologically advanced machinery for labor. These phenomena do not appear immediately reversible.

Many blue-collar, middle-income jobs have been eliminated by plant closings and the substitution of technologically advanced machinery for labor. These phenomena do not appear immediately reversible.

Why is the issue of income distribution important? Certainly the market for durable consumer goods, including goods produced in Indianapolis—parts for autos, for example—is influenced by the income distribution, as is the demand for housing.

Although changes in the distribution do not occur in the short run, the cumulative effect of several "short runs" becomes important.

A Year of Transition

The year 1987 will be one of transition. At the national level, fiscal policy will provide less stimulus for the economy. As Congress debates how to reduce spending, the uncertainties created by the discussion may dampen consumer confidence. The consumer has been the source of strength but, given any increased uncertainty, may use the increased disposable income from tax reform for saving rather than consumption.

If the saving flows into investment in new plant and equipment, the effect will be beneficial—but many industries already have excess capacity. The new tax code is supposedly revenue-neutral. But how will firms with higher tax liabilities attempt to shift the tax burden? Ultimately, people pay taxes in their roles as consumers, stockholders, and employees. The ability of a firm to shift the tax forward through higher prices depends on market conditions.

With the passage of the tax bill, much uncertainty has been eliminated. However, in another sense, some uncertainty remains as to how businesspeople and consumers will respond. The historical record provides only a dimly lit pathway. □

Evansville Area Business Index
(1977 = 100)

Period	Industrial Production	Trade & Services	Construction	Transportation	Finance	Employment	Composite Index
Quarterly Index							
1985:1Q	117.41	109.63	104.69	100.12	103.43	106.16	110.63
1985:2Q	112.18	109.27	103.92	98.43	103.97	105.40	108.45
1985:3Q	109.84	106.74	113.07	99.34	105.26	107.10	107.92
1985:4Q	114.23	109.83	113.11	98.74	108.51	108.64	110.77
1986:1Q	121.04	109.77	157.07	99.32	106.80	106.72	116.75
1986:2Q	111.58	109.97	187.75	97.95	110.23	106.20	115.91
1986:3Q	110.84	111.19	181.82	101.59	111.54	107.96	115.46
Annual Index							
1982	104.52	102.36	103.62	93.23	102.40	102.85	102.64
1983	108.14	104.10	116.09	91.36	104.60	100.71	105.41
1984	114.99	106.01	103.66	95.03	106.16	103.76	107.95
1985	113.42	108.87	108.70	99.16	105.29	106.82	109.44
1986 (est.)	114.49	110.31	173.88	99.62	109.52	106.96	116.04
1987 (proj.)	119.00	112.50	190.00	100.50	112.00	107.50	120.35

Evansville

Maurice Tsai

Professor of Economics, University of Evansville

The Evansville economy experienced a surprisingly good year in 1986 in spite of several strikes. The Evansville Area Business Index rose 6% as compared to the 4% previously forecast.

Five major and minor strikes hit the area in June. Three minor strikes were settled within about a month or less. One major strike lasted for about three months, and the other for 143 days. The loss from these strikes was $30 million in wages and $75 million in regional incomes. Despite the strikes, the industrial production index rose 1%. Trade and service activities, slowed slightly by the strikes, showed a growth rate of 1.3%, half of the 1985 rate.

The construction sector was extremely active. Its index rose 59.9%, to reach the highest point in local postwar history. Highway, street projects, and business construction boosted the regional economy, with construction permit value of more than $50 million. Residential construction suddenly revived in 1986. Lower mortgage rates and stable construction costs resulted in a doubling of activities over the levels of recent years.

Automobile sales were quite brisk in 1986 because of competitive financial rates offered by auto dealers. Because construction and car sales called for more funds and consumer loans, the financial sector had a share in the growth. The transportation sector showed only a modest 0.5% growth rate, but higher rates are expected in years to come.

Area employment improved moderately. After a fall in 1985, area nonagricultural employment regained its 1984 level. The significant improvement was in the unemployment rate, which declined to 6.5% in September, when most strikes had ended.

Because construction and car sales called for more funds and consumer loans, the financial sector had a share in the growth.

Outlook

In 1987 both the national and state economies are projected to have a slower growth rate than in 1986. The Evansville economy will be affected by this general trend, but the local economy may do better.

The local growth rate is projected to be 3.5 to 4% in terms of the Evansville Area Business Index (see **Table**). The regional growth will be spread throughout all sectors.

The growth will again be spearheaded by the construction sector. More than $30 million in state funds are to be channeled

into the local economy for the new airport terminal, the Lloyd Expressway, I-146, and other street projects. Residential construction will be strong, but probably below the 1986 level.

Industrial production is expected to grow by 4% if the major labor contract to be renewed in February is peacefully negotiated. If a major strike breaks out, then the growth rate will fall to 2%. The trade and services sectors are anticipated to grow at 2%, continuing their steady growth trend. Automobile sales may not be so brisk as in 1986. Some recovery of the medical care sector is expected after years of adjustment to changed demand and overexpansion.

More than $30 million in state funds are to be channeled into the local economy for the new airport terminal, the Lloyd Expressway, I-146, and other street projects.

The financial sector will continue to expand at 2.5%. More bank and financial mergers may result as major local banks become more aggressive with substantial capital funds.

With improved highway and street systems, the transportation sector will be more active, especially the trucking business. The completion of the airport terminal in 1988 will boost air transportation activities.

Area employment is expected to grow moderately, by 0.5% in 1987, and the unemployment rate will stabilize at 6.5 to 7% for most of the year.

Area employment is expected to grow moderately, by 0.5% in 1987, and the unemployment rate will stabilize at 6.5 to 7% for most of the year.

In summary, 1987 will be another good year for the Evansville economy. The growth rate is fairly decent and may be above the rates of the national and state economies. □

Jeffersonville-New Albany (Louisville Area)

Fay Ross Greckel

Professor of Economics, Indiana University Southeast

The Louisville metropolitan area economy proved to be somewhat stronger than had been expected in 1986, with moderate growth the norm in most sectors. Although this year's growth may be a little slower, the local economy can still look forward to a reasonably good year in 1987.

Employment

Wage and salary employment in establishments located in the seven metropolitan area area counties (Clark, Floyd, and Harrison Counties in Indiana and Jefferson, Bullitt, Oldham, and Shelby Counties in Kentucky) averaged 14,000 jobs higher in the first three quarters of 1986 than in the previous year, reaching nearly 435,000 in October (see **Figure 1**).

The local economy seems finally to have surpassed the previous employment peak attained in 1979, before the onset of the devastating recessions of the 1980s. Particularly encouraging was the acceleration in employment gains as the year progressed. In the first quarter of 1986 there were an average of 12,000 more jobs than in the first quarter of 1985. In the second and third quarters, new jobs increased by 14,000 and 16,000 respectively, and for October 1986 the Kentucky Cabinet for Human Resources reported 17,400 more jobs than a year earlier.

Although the overall picture is encouraging, the gains were far from uniform. In fact, manufacturing employment declined once again, falling about 2,000 jobs below the average for the first nine months of 1985. These losses occurred primarily in the metals, machinery, transportation equipment, and tobacco industries. Even in manufacturing, the situation improved as the year went on, with the difference from the previous year narrowing to a loss of 800 or fewer jobs in the period from July through October. Machinery employment improved the most; by October the number of jobs in that sector was slightly above the level a year earlier.

As has been true for several years, employment growth was concentrated in the nonmanufacturing area, where about 17,000 jobs were created. Employment rose by nearly 6,000 in retail establishments, by nearly 5,000 in the service industries, and by about 1,600 each in construction, local government, and the finance and real estate sectors.

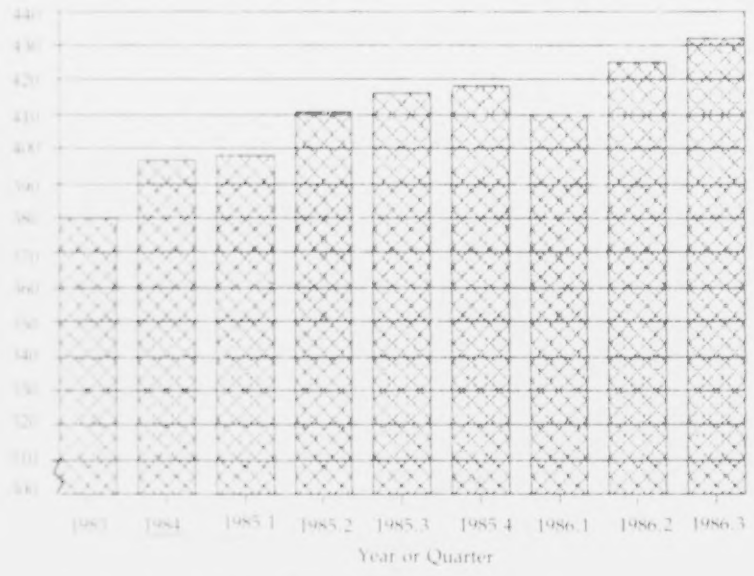
The local economy seems finally to have surpassed the previous employment peak attained in 1979, before the onset of the devastating recessions of the 1980s.

There were striking geographic disparities in employment growth as well. The overall employment gains occurred on the Kentucky side of the Ohio River. Clark, Floyd, and Harrison Counties averaged about 300 fewer jobs for the first three quarters of 1986 than for the same period of 1985 (see **Figure 2**). Losses of some 500 jobs in metals and machinery manufacturing (caused, in part, by the closing of several small companies) were partially offset by gains in woodworking and construction, as demand for new building rose.

Although the overall picture is encouraging, the gains were far from uniform. In fact, manufacturing employment declined once again.

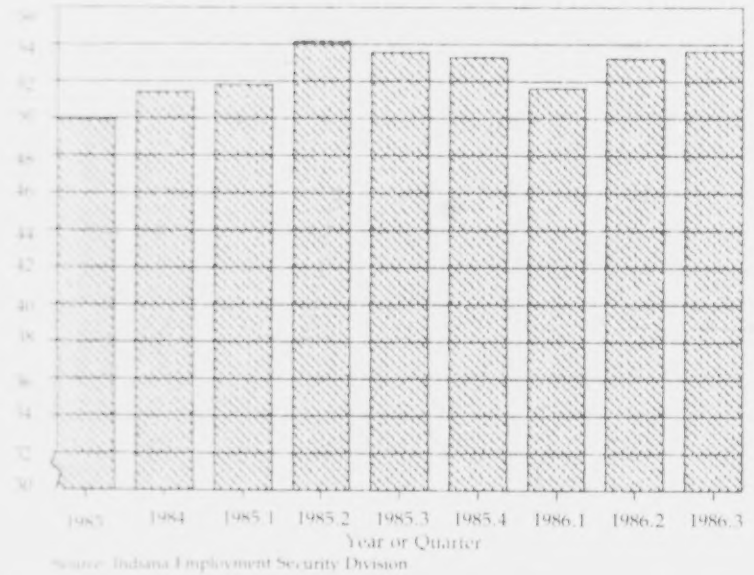
The most surprising development in these three counties was the absence of job gains in retailing or service establishments,

Figure 1
Louisville Metropolitan Area Employment, 1983-1986
(Nonfarm Employment in Seven-County MSA)



Source: Kentucky Cabinet for Human Resources

Figure 2
Southern Indiana Employment, 1983-1986
(Clark Floyd Harrison County Nonfarm Employment)



Source: Indiana Employment Security Division

at least according to the data currently available. Throughout the business cycle, employment in both manufacturing and nonmanufacturing firms has been far more stable in the Indiana counties than in the Kentucky portion of the metropolitan area, but 1986 was the first year that nonmanufacturing employment failed to rise during a period of economic expansion. It is too early to tell whether this represents a new trend. It is also difficult to know whether nonmanufacturing output is also lagging, or whether the lack of new jobs reflects more efficient use of the work force already in place.

The unemployment rate declined sharply throughout the metropolitan area. By September the reported rates had fallen to 5.5% for the area as a whole and 5.4% for the residents of the three Indiana counties. (These rates are not seasonally adjusted.) The comparable U.S. rate was 6.8%.

The sharp reduction in unemployment is not yet showing up in a reduced demand for emergency social services. The community food agency Dare To Care, for example, provided emergency food supplies for 60,700 individuals in the first nine months of 1986, an increase of 600 over the previous year. Happily, the rate of increase is much smaller than in the past few years, which suggests that a leveling off of need may be evident in the near future.

Construction was one of the stronger sectors in 1986.

Construction

Construction was one of the stronger sectors in 1986. Employment grew by 10% in the whole area and by 5% in the Indiana counties. In Jefferson County, residential construction repeated its strong performance of the previous year. The number of building permits increased slightly to a new high for the decade, with 2,165 units begun during the first nine months of the year (see **Table 1**). In Indiana, Clark County had a slight decline in permits issued, Harrison County had no change, and Floyd County had an impressive 28% increase. There was

Table 1
Residential Building Permits, 1979-1986
(number of dwelling units)*

	Jefferson County, Ky.	*Clark County, Ind.*	*Floyd County, Ind.*	*Harrison County, Ind.*
Jan.-Sept. 1979	1860	463	316	n.a.
Jan.-Sept. 1982	670	111	200	46
Jan.-Sept. 1983	1766	185	259	115
Jan.-Sept. 1984	1649	193	166	78
Jan.-Sept. 1985	2102	215	232	126
Jan.-Sept. 1986	2165	208	298	122

*Number of residential units for which building permits were issued, including single-family dwellings, apartment units, and condominium units.
Source: Kentuckiana Regional Planning and Development Agency.

also considerable nonresidential construction throughout the area during the year.

Real Estate

Real estate sales for the first nine months increased more than 7% in Jefferson, Bullitt, and Oldham Counties. In the Indiana counties, by the first week in November, last year's real estate sales had surpassed the total for all of 1985. Despite extensive building and renovating of office space in recent years, office vacancies in Jefferson County are low and declining, justifying the recently announced plans for construction of two new office towers in downtown Louisville.

Consumer Spending

Turning to consumer spending, nine-month sales of cars and light trucks increased 6% in Clark and Floyd Counties but declined by nearly 4% in Jefferson County. Retail employment grew by 6%, suggesting that consumer spending was on the increase, at least in the Kentucky counties.

Forecast

Looking ahead, 1987 should see continued growth, though at a little slower pace than in 1986. Positive growth indicators include the accelerating employment gains in recent months and the still declining unemployment rates. Employment growth in 1987 should come close to the job gains realized in the past year.

Continued low interest rates, together with already announced plans for industrial expansion and other building projects, should continue to stimulate the construction and real estate sectors, but some of the stimulus will be offset by recent changes in the federal tax laws. Car sales are likely to lag, and that could have a negative effect on some manufacturers, as well as on car dealers.

Despite several weak areas, however, the momentum seems present for one more year of rather moderate economic growth for this region.

Fort Wayne

Thomas L. Guthrie

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Employment in the Fort Wayne area—Allen, DeKalb, and Whitley Counties—is forecast to increase approximately 1% in 1987. This compares with actual increases of 7.9, 3.1, and 3.2% in 1984, 1985, and 1986, respectively.[1] The actual job increase in 1987 would be less than 2,000, given that nonagricultural payroll employment totaled 174,200 as of October 1986.

The original forecast (November-December 1985 *IBR*) for 1986 employment change was for an increase of 4%, or 6,600 jobs. The midyear forecast update (July 1986 *IBR*) hinted that the forecast was likely to be low. Through November, employment has increased by 5,400.

The Fort Wayne area increase in manufacturing output, with minimal increase in manufacturing employment, is consistent with national trends: Since 1979, manufacturing output has risen 13%, while manufacturing employment has declined 9%.

Manufacturing employment throughout 1986 has increased by only 1,000, despite the fact that industrial use of electricity has spurted (see **Figure**). This spurt is probably due to the start-up of the General Motors light-duty truck-assembly plant, given that there has been a 1,200 increase in transportation employment. Assuming electrical use is a good indicator of manufacturing output, the area increase in output, with minimal increase in manufacturing employment, is consistent with national trends: Since 1979, manufacturing output has risen 13%, while manufacturing employment has declined 9%.

What happens to the area economy in 1987 is more likely to be influenced by the fortunes of the national economy than by the fortunes of area economic development, which has been a significant factor during the last three years. A $500 million GM plant and a 5% unemployment rate

1. Employment growth rates for 1984 and 1985 are from December to December as contrasted with 1986, which is from November to November, the latest month for which data are available. The 1986 employment data are preliminary; therefore, they are subject to significant revision.

have caused priorities to change. Although this statement is likely to prompt vehement denial from some quarters, economic development is no longer priority #1 for the Fort Wayne area.

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Defense-related employment constitutes a significant portion of the area economy. It has grown significantly, thanks to increased defense expenditures during the Reagan administrations, but this growth appears to be over. There is tremendous pressure to reduce the federal deficit in 1987, especially the portion going to defense.

Area agriculture remains severely depressed. Given the likelihood of decreased planting next spring as a result of acreage set-asides, the outlook for sales of farm equipment and supplies is even bleaker.

It appears that the four-year buying binge by consumers is over. The 1987 outlook for the consumer sector is subdued, especially with respect to the purchases of autos and trucks. Given the disproportionately high concentration of employment in the transportation industry, northeastern Indiana will feel the effects of lackluster auto sales. The outlook for peaceful labor negotiations in the transportation industry next fall has dimmed with GM's $700 million buyout of Ross Perot. It will be difficult for GM to sell the union on the need for continued wage restraint to contain production costs.

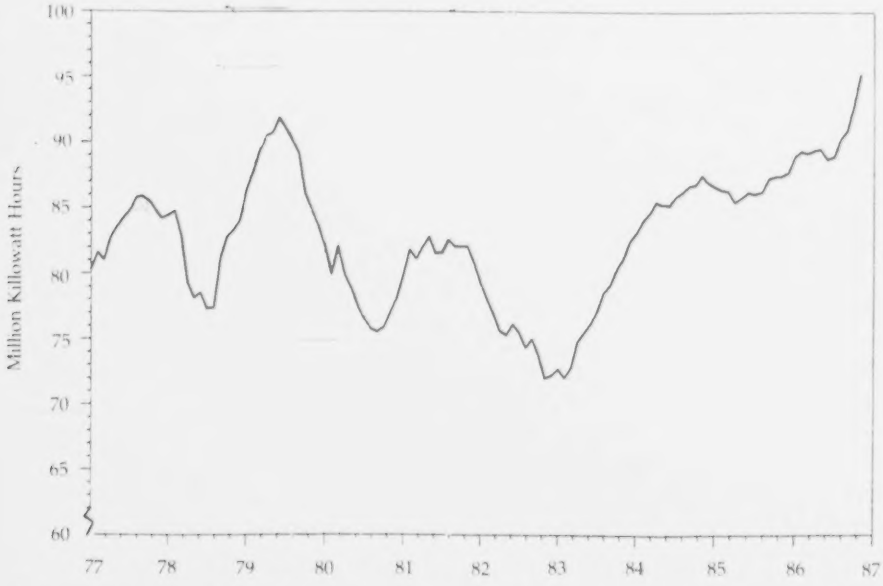
The primary hope in 1987 for the area manufacturing sector, and probably the economy in general, is in the form of increased exports, in response to the dramatic fall since February 1985 in the exchange rate of the dollar. The consensus forecast for 1986 included in its scenario the turnaround in exports, but through November the evidence of such a turnaround is lacking. The forces driving trade may be more complex than previously thought, or the world economy may not be strong enough to increase purchases, regardless of the bargain prices.

Given the disproportionately high concentration of employment in the transportation industry, northeastern Indiana will feel the effects of lackluster auto sales.

The most one can hope for is that the sheer momentum of the area economic development effort to date, plus the outlook for increased exports, will be enough to cause the forecast to be realized.

Although the new GM plant is important to the area economy, the area economy is much more than GM. The economic performance of the area in 1987 may make this point as it is once again determined by the performance of the national economy. □

Use of Electricity by Industry in the Fort Wayne Area
5-Term Moving Average



Source: Indiana and Michigan Electric Co. Data seasonally adjusted by the Community Research Institute, IPFW.

South Bend—Elkhart

John E. Peck

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An analysis of economic indicators in the South Bend/Mishawaka and Elkhart/Goshen communities at year-end suggests that a substantial amount of economic growth has occurred over the past twelve months. This performance, though somewhat uneven among sectors

of the economies, is characteristic of the local record over the past three or four years, during which the area recovered from the 1979-83 recession and ultimately made net gains to the employment base.

The **Table** summarizes various indicators of local economic activity for the South Bend/Mishawaka and Elkhart/Goshen communities as tracked by Indiana University at South Bend's Bureau of Business and Economic Research. The figures contained in the table are seasonally adjusted and, with the exception of the unemployment rates and real estate data, are index numbers expressed as a percentage of base year values. Comparative index numbers are given for August and September 1986. To highlight trends, index numbers are also given for a September 1986 to September 1985 comparison.

If employment trends are used to gauge performance, the most dramatic local results are found in the Elkhart/Goshen economy.

Elkhart/Goshen

If employment trends are used to gauge performance, the most dramatic local results are found in the Elkhart/Goshen economy. Since mid-1983, when job levels returned to pre-recession highs, the area has added nearly 16,000 new jobs. This amounts to a 21% increase and places the community among the most vigorously growing economies in the state and the nation.

As noteworthy as is this achievement, it is even more remarkable that more than half the jobs added were in the manufacturing sector. This development runs counter to state and national trends, where the largest gains have occurred in service and nonmanufacturing employment. According to the table of indicators, during the past twelve months the growth in over-

Selected Economic Indicators for South Bend/Mishawaka and Elkhart/Goshen
(Seasonally Adjusted Index: 1967 = 100)

	South Bend/Mishawaka			*% Change from*		*Elkhart/Goshen*			*% Change from*	
	September 1986	*August 1986*	*September 1985*	*August 1986*	*September 1985*	*September 1986*	*August 1986*	*September 1985*	*August 1986*	*September 1985*
Employment data										
Nonagricultural employment	119.9	119.1	117.9	.7%	1.7%	175.5	173.5	168.3	1.2%	4.3%
Manufacturing employment	74.2	74.5	76.9	- .4%	- 3.5%	158.2	157.5	153.2	.4%	3.3%
Nonmfg. employment	145.8	144.6	141.0	.8%	3.4%	198.7	196.9	190.4	.9%	4.4%
Unemployment rate	5.6	5.9	6.4	n.app	n.app	4.4	4.5	6.0	n.app	n.app
Help-wanted advertising	132.9	126.6	107.9	5.0%	23.2%	-	-	-	-	-
Utilities										
Industrial electricity sales	154.0	153.4	147.4	.4%	4.5%	196.5	199.8	205.8	- 1.7%	- 4.5%
Commercial gas sales	128.6	139.2	148.2	- 7.6%	-13.2%	186.2	172.4	161.4	8.0%	15.4%
Industrial gas sales	67.7	85.0	64.9	-20.4%	4.3%	163.7	170.3	218.1	- 3.9%	-24.9%
Rental car and truck sales										
New passenger car sales	123.0	123.9	99.7	- .7%	23.4%	91.0	111.2	85.6	-18.2%	6.3%
New truck sales	406.1	368.5	257.0	10.2%	58.0%	93.6	126.0	75.7	-25.7%	23.6%
Housing construction data*										
Estimated value of permits	476.2	819.4	412.3	-41.9%	15.5%	461.7	382.8	311.4	20.6%	48.3%
Number of permits issued	104.5	183.7	101.6	-43.1%	2.9%	136.3	155.7	102.7	-12.5%	32.7%
Average value per permit	456.7	500.4	403.4	- 8.7%	13.2%	336.9	256.5	282.9	31.3%	19.1%
Residential real estate data**										
Number of active listings	1344	1445	1627	- 7.0%	-17.4%	1255	1258	1268	- .2%	- 1.0%
Close sales:										
Average days listed	55	48	64	14.6%	-14.1%	86	91	95	- 5.5%	- 9.5%
Average market price	$49,740	$50,575	$45,537	- 1.7%	9.2%	$54,699	$54,366	$50,167	.6%	9.0%
% of sale to list price	94.3	95.0	93.2	- .7%	1.2%	95.0	95.0	95.0	.0%	.0%

* All Elkhart construction data has a base year of 1970.
** Real estate data are not index numbers but are unadjusted weekly averages.
Sources and definitions of data are available on request.

all employment was 4.3%; the manufacturing sector's increase was 3.3%.

South Bend/Mishawaka

The South Bend/Mishawaka record is less spectacular than that of its neighbor to the east, but it is, nevertheless, a record of growth.

South Bend/Mishawaka, once a major manufacturing center in the region, now has less than 25% of its employment in the manufacturing sector. Although total employment has returned to pre-recession levels and, in fact, has shown net gains overall, the recovery and growth of the aggregates have occurred entirely in the nonmanufacturing area. This development is of understandable concern to residents, who see a strong manufacturing base as critical to the future prosperity of the area.

As a number of old-line firms have phased out operations locally, newer and smaller companies in less traditional industries have helped to fill the void and provide a base for future expansion.

Project Future, the area's economic development organization, has achieved several recent successes in attracting and promoting manufacturing jobs. As a number of old-line firms have phased out operations locally, newer and smaller companies in less traditional industries have helped to fill the void and provide a base for future expansion.

Outlook

In the absence of local shocks, the most important factor affecting local conditions is the performance of national markets and the national economy. The Indiana University forecast of moderate growth in real output, relatively strong consumption performance, and stable interest rates suggests that 1987 should be similar to 1986 in the Elkhart/Goshen and South Bend/Mishawaka communities.

The continuing phaseout of some manufacturers will again retard overall progress in South Bend/Mishawaka, while the Elkhart/Goshen outlook will be affected by the performance of the recreational vehicle industry.

The continuing phaseout of some manufacturers will again retard overall progress in South Bend/Mishawaka, while the Elkhart/Goshen outlook will be affected by the performance of the recreational vehicle industry. Industry forecasters see RV sales rebounding somewhat from the relatively slow activity recorded in 1986. Given this general outlook, South Bend/Mishawaka should again experience yearly employment gains in the range of from 1 to 2%, while Elkhart/Goshen should see increases of from 3 to 4%. In each case, overall local activity would be pushed to new peaks.

Muncie

Robert R. Jost

Professor of Economics, Ball State University

The relatively slow 2.6% growth of real GNP for 1986 tends to add plausibility to the 1987 Indiana University forecast of continued sluggish growth.

Given the prolonged duration of the current cyclical expansion, many uncertainties now confront the business analyst:

- The distressed agricultural sector;
- The plight of financial intermediaries weakened by imprudent expansion policies;
- Consumer indebtedness;
- The impact of major changes in the federal income tax code; and
- Continued horrendous budget and trade deficits.

In addition to these uncertainties, some economic indicators are yielding atypical readings for this phase of the expansion with respect to price indices, capacity utilization rates, labor costs, and interest rates.

Employment

Employment in Indiana also behaved atypically for a Midwestern "Rustbelt" state. It grew 3.3% in 1986, more than double the average for its Rustbelt neighbors.

As indicated in the November/December 1984 *IBR*, the Muncie recovery from the prolonged 1981-82 recession failed to match that of Anderson because robust auto sales in both 1983 and 1984 had a much more favorable impact on the Anderson MSA than on Muncie's.

According to revised nonagricultural establishment employment data, employment declined 15% between November 1979 and November 1982 in the Muncie MSA and 20% in Anderson's. However, between November 1982 and October 1984, employment in Muncie grew by only 6% while Anderson's increased a heady 16%. Muncie's establishment employment increased nearly 4% between October 1984 and October 1986, whereas Anderson's tended to level off only slightly above the 1984 mark. As of 1986, establishment employment was still nearly 6% below the November 1979 level for both MSAs. Presently available payroll and personal income data for the 1982-84 time frame firmly reinforce the conclusion that Anderson's recovery substantially exceeded Muncie's.

Presently available payroll and personal income data for the 1982-84 time frame firmly reinforce the conclusion that Anderson's recovery substantially exceeded Muncie's.

The most important but disheartening news to befall Muncie was the recent announcement by the Borg Warner Corporation, Muncie's largest employer, that an additional 600 to 900 workers will be laid

off next spring. The long and the short of it is that this Muncie facility, which employed nearly 2,500 people during the past four years, will downsize to roughly 1,400 hourly and salaried employees. This decrease reflects primarily the loss to a European competitor of a long-standing transmission contract with the Ford Motor Company. There is no consensus among economists on the magnitude of the job multiplier of these basic manufacturing jobs, but there can be little doubt that the loss of these high-paying manufacturing jobs will have profound negative effects on many other Muncie job-holders.

There can be little doubt that the loss of high-paying manufacturing jobs at Borg Warner will have profound negative effects on many other Muncie job-holders.

The former Muncie Chevrolet plant, which was assigned to the Detroit Diesel Allison division in 1984, has been reassigned to the GM Hydra-matic division based in Ypsilanti, Michigan. This reassignment is not expected to initially change employment or production at the plant that now carries the logo Hydra-matic Muncie. The plant, which had almost 3,000 salaried and hourly employees in 1980, currently employs 1,250 workers. The UAW recently approved a new labor contract aimed at increasing productivity and reducing the adversarial relationships between management and the union. Hydra-matic Muncie employees, like the employees of Anderson's huge GM complex, are relieved that their plants were not included among the 11 plants GM has opted to phase out of production. GM has invested some $200 million modernizing Hydra-matic Muncie. The future growth or demise of the facility is contingent on the plant's becoming competitive in world markets and garnering new customers outside the GM umbrella. As GM belatedly moves forward in its endeavor to "outsource" many more of its component supplies, the problem-plagued giant is likely to announce other plant closings.

Management at the Westinghouse plant is currently demanding concessions from its workers. If the concessions are forthcoming, additional workers will be hired; if not, more will be laid off. The plant employs about 500 workers, less than one-third of the number it employed in the 1960s.

Employment in Muncie's major manufacturing firms appears to be at a critical stage of development, and there is little if any evidence of an impending turnaround. However, management, as well as many workers, may have realized belatedly that job security is more a function of job performance than of contractual negotiation.

Outlook

The 1987 outlook for Muncie is lackluster at best, but the 4.8% outmigration that characterized the 1980-83 time frame has decreased markedly. Muncie possesses an excellent location for exporting retailing, university, and hospital services to the surrounding region. Leaders in business, government, and labor are cooperating to improve the infrastructure and thereby to create more jobs (see July 1986 *IBR*). Much of Muncie's employment is concentrated in small business enterprises that possess the capacity to innovate and spin off new businesses, thereby creating additional new jobs. It is from firms such as these that Muncie's future growth is likely to come.

Muncie's strength rests largely with the very diversity of its economy, its many small businesses, and its strategic location—factors that will, in the long run, produce more than a lackluster performance.

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Anderson

Gilbert L. Crouse

Professor of Economics, Anderson College

For Anderson, the 12-year period from 1975 to 1986 has been a ride on a sine-wave roller coaster. Total employment went from 53,200 in 1975 to 57,700 in 1978 to 45,600 in 1982 to an estimated 57,000 in 1986. **Figure 1** shows this pattern in total establishment employment, which is about 90% of total employment.

For Anderson, the 12-year period from 1975 to 1986 has been a ride on a sine-wave roller coaster.

Constant-dollar personal income (in 1972 dollars) followed the same pattern. It rose from $605 million in 1975 to $667 million in 1978. From this peak it fell to $586 million in 1982. Subsequently, it has risen to an estimated $679 million in 1986, which is 12% above the 1975 level. The unemployment which attended these fluctuations exceeded 22% in both the 1980 and 1982 recessions. Since the early 1980s, unemployment has come back into line with the national economy and is currently in the 6.5% to 7% range.

Trends/Fluctuations in Employment

Manufacturing employment has declined not only as a percentage of total employment but in absolute terms as well. In percentage terms, the decline has been from 52% of total establishment employment in early 1975 to around 39% in late 1986. Manufacturing employment reached 26,200 in December 1978, its highest level ever. In November 1982 it reached its lowest level of the 12-year period when it bottomed at

Figure 1
Anderson Establishment Employment, 1975-1986
Nonagricultural Wage and Salaried Employees (by Thousands)

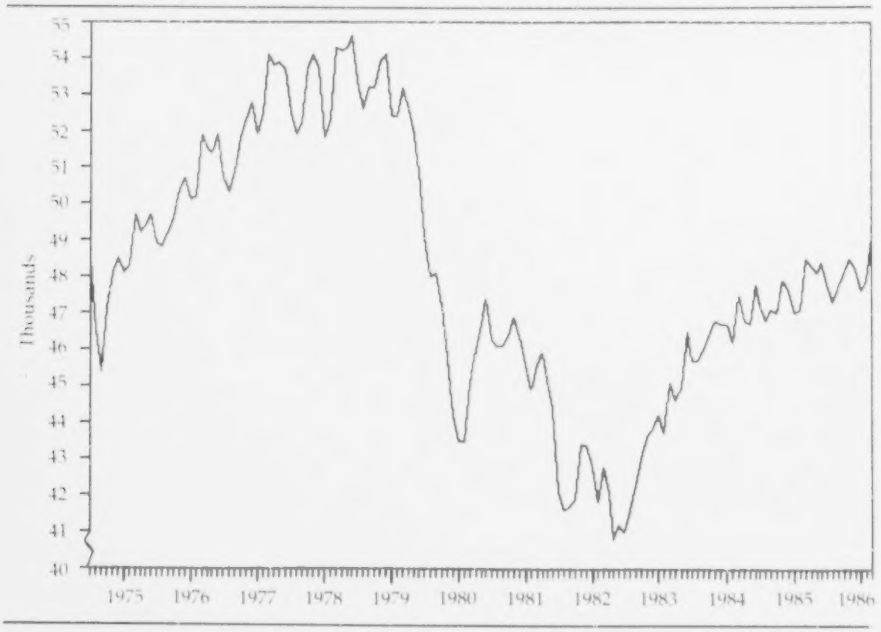
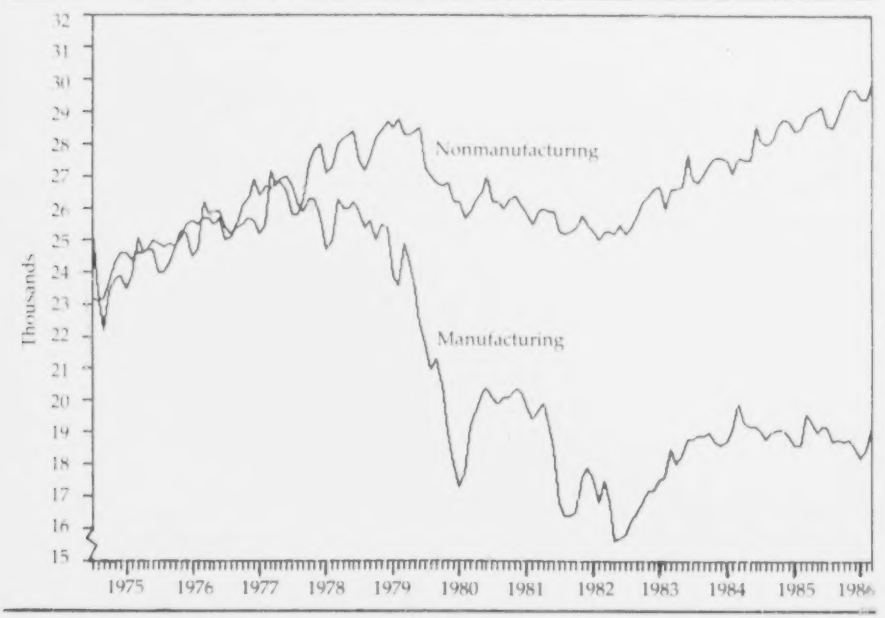


Figure 2
Anderson Manufacturing and Nonmanufacturing Employment, 1975-1986
(by Thousands)



15,600. It recovered to 19,200 in September 1986, a figure that is about 1,300 shy of the level achieved in the short recovery which followed the 1980 recession (see **Figure 2**).

Of the 5,400 jobs lost in manufacturing from 1975 to 1986, most—some 5,200—have come from durable goods manufacturing. A comparison of manufacturing employment with the Federal Reserve's Production Index for Motor Vehicles and Parts (MV&P) shows the effects of automobile production on Anderson's manufacturing employment. From its peak of 117.3 in December 1978, the MV&P Index dropped 44% to a low of 65.5 in November 1982. During this same period manufacturing employment dropped 41%. It is important to note, however, that the Index's recovery by 78% to 116.5 in January 1986 has not been matched by manufacturing employment in Anderson, which rose by only 23% during the same period. Automobile production's return to the levels of the late 1970s has not carried manufacturing employment back up to the levels it achieved in 1977 and 1978.

Of the 5,400 jobs lost in manufacturing from 1975 to 1986, most—some 5,200—have come from durable goods manufacturing.

Nonmanufacturing employment, on the other hand, has been growing steadily, both prior to and since the 1980 and 1982 recessions. From a peak of 28,800 in August 1979, it dropped to a low of 25,000 in August 1982, a drop of only 13% and less than half the decline in manufacturing employment. From this low, nonagricultural nonmanufacturing employment has risen by 20% to a new high of 29,900 in September 1986. This compares favorably with real GNP, which has risen by only 18% during the same period. As in the national economy, the principal area of growth in nonmanufacturing in Anderson has been in the service sector, which has risen from around 7,000 in 1979 to around 9,000 in 1986.

Trends/Fluctuations in Income

Most of the 12% increase in total constant dollar personal income from 1975 to 1986

was the result of a 7% increase in total employment. Total establishment employment, however, saw no increase during the period. The increase in average personal income in constant dollars over the 12-year period is estimated to be only $536, a mere 4.7%; this is equivalent to an annual growth rate of 0.4%.

Constant-dollar manufacturing income reached its peak in 1977. After plateauing at this level through 1979, it declined by 36% during the 1982 recession, reaching its lowest level. Manufacturing employment declined by a little more than 34% between 1979 and 1982. By comparison, because of nearly 18% growth in nonmanufacturing income, total personal income in constant dollars declined by only 12% during this period. See **Figure 3** for a comparison of manufacturing and nonmanufacturing establishment income as percentages of their 1975 levels.

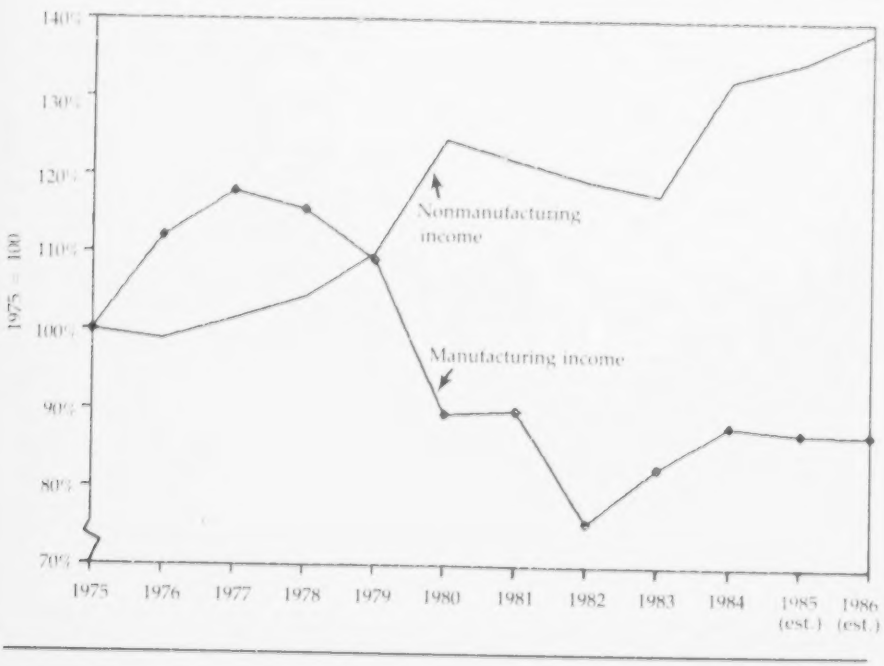
The dominance of the volatile durable goods industries in Anderson's economy has lessened over the last ten years. As a result, the magnitude of fluctuations in the level of employment and income should be reduced in the future. Greater stability, however, does not come without a hefty price. Average personal income is estimated to have declined by 10% from 1980 to 1986, even though average manufacturing income increased by 2.6%.

In view of Anderson's experience from 1979 through 1983, the good news is that the bad news is not so bad as it has been.

Outlook for 1987

Because of cutbacks scheduled at GM's Delco plant, the slow erosion in manufacturing employment that has been occurring since 1984 will continue and may exceed the 150 job losses averaged over the last couple of years. If the national economy manages to avoid stalling into a recession in 1987, nonmanufacturing employment may expand enough to offset the decline in manufacturing employment, producing a "no change" outcome in terms of total employment. But because of the lower average income in nonmanufacturing, this will mean a decline in total personal income. Still, with lower tax rates coming into play in 1987, total disposable income could rise if the decline in manufacturing employment is not too sharp. In view of Anderson's experience from 1979 through 1983, the good news is that the bad news is not so bad as it has been.

Figure 3
Anderson Income, 1975-1986
Manufacturing and Nonmanufacturing Income as Percentages of 1975 Levels



Lafayette

William C. Dunkelberg *Professor of Economics, Purdue University*
Jeff Van Hulle, *Graduate Student in Economics, Purdue University*
Dorothy Mansfield, *Labor Market Analyst, Indiana Employment Security Division*

This outlook is sponsored by the Greater Lafayette Chamber of Commerce. The results are based on 50 questionnaires returned in 1986 and 49 returned in 1985 from a random sample of 100 firms in the Greater Lafayette area. The sample was drawn from the membership of the Chamber of Commerce. Without the Chamber's cooperation, this study would not be possible. All data are strictly confidential and all respondents are anonymous. The authors express their appreciation to the firms that participated in the survey.

The current business expansion turned four years old in November. Only four of the thirty expansions recorded by the federal government since 1854 have been longer. The continuing prosperity that has

Table 1
Greater Lafayette Employment Trends

Industry	*Peak 1979*	*Jan. 1984*	*Jan. 1985*	*Jan. 1986*	*Sept. 1986*
Manufacturing	12,900	10,700	11,100	11,400	11,500
Construction	2,700	1,300	1,500	1,500	2,200
Transportation	1,600	1,700	1,700	1,700	1,700
Fin., R.E., Ins.	2,900	2,500	2,500	2,600	2,800
Whlse. Retail	12,000	11,700	12,200	12,700	13,000
Services	9,200	9,700	9,900	10,100	10,700
Government	2,600	2,300	2,300	2,500	2,600
Education	17,600	17,700	17,100	17,600	18,400
Total	**60,300***	**57,600**	**58,300**	**60,100**	**62,900**

*Figure for each industry is highest monthly total. Because industry detail comes from different months, it does not add to total, which is the highest monthly total for 1979.

Table 2
Sales Distributions of Respondent Firms

	1985		*1986*	
	#	*Pct.*	*#*	*Pct.*
Under $200,000	10	20%	8	16%
$200,000 - $800,000	10	20	15	30
$800,000 - $3,000,000	11	23	7	14
$3,000,000 or more	16	33	19	38
No response	2	4	1	2
Total	**49**	**100%**	**50**	**100%**

been felt throughout most of the country had a substantial impact on the Greater Lafayette area this past year.

Employment

In September 1986, total employment in the Lafayette area exceeded the record-high level attained in 1979 at the peak of the last business expansion. The composition of total employment has changed since 1979.

Manufacturing employment in September was 11% below its 1979 level, and construction employment was off 19%. Offsetting gains occurred in the service sector, with retail and wholesale trades up 8%, services up 16%, and educational employment up 6% from 1979 levels (see **Table 1**).

Sales

Fifty of 100 firms questioned responded to the November survey, a sufficient number to provide a clear picture of the Lafayette economy during the past year. The sales distributions of the respondent firms are shown in **Table 2**.

The number of firms reporting sales volume increases grew again this year. In 1985, 59% of the responding firms experienced increases. The 1986 results show improvement for 68% of the surveyed firms. The number of firms reporting lower sales volumes declined in 1986. But those with declining sales reported a larger average percentage decrease—14% versus 9% in 1985 (see **Table 3**).

Real sales expectations improved over a year ago, with 67% expecting higher sales versus 57% in 1985. Four percent of the firms expect decreased sales, up from none in 1985. The results suggest that few firms expect the local economy to move toward a recession.

Profits

The profit picture shows a dramatic change for the Greater Lafayette area. Fifty-one percent of the firms reported profits higher than last year, up from 31% a year ago.

Table 3
Lafayette Sales, 1985 and 1986

	Sales Volume				*Real Sales Expectations*			
			Avg. Pct. Change				*Avg. Pct. Change Expected*	
	1985	*1986*	*1985*	*1986*	*1985*	*1986*	*1985*	*1986*
Higher	59%	68%	14%	19%	57%	67%	15%	21%
Lower	18	11	9	14	*	4	*	10
Same	23	21	—	—	43	29	—	—
	100%	**100%**			**100%**	**100%**		

Table 4
Profits in 1985 and 1986

	1985	*1986*
Higher	31%	51%
Lower	38	32
Same	31	17
	100%	**100%**

Table 5
Employment Plans of Lafayette Firms

Employment		*12-Month Employment Plans*	*1985*	*1986*	*Average Change in # of Employees* *1985*	*1986*
Under 10	48%	Increase	50%	46%	9	11
10 - 49	16	Keep the same	46	48		
50 - 199	10	Decrease	4	6	15	50
200 or more	26					
			100%	100%		
	100%					

Table 6
Planned Capital Outlays for Lafayette Firms

	1985	*1986*	*Type of Outlay*	*1985*	*1986*
Yes	65%	64% →	New structures	12%	18%
No	25	24	Expansion/improvement	20	34
Uncertain	10	12	Equipment	53	46
			Other	10	8
	100%	100%			

Table 7
Most Important Problems of Lafayette Firms

Problem	*1985*	*1986*
Weak sales; demand	16%	16%
Labor costs	2	*
Availability of skilled labor	6	8
Interest rates; credit availability	8	2
Inflation; rising costs	4	8
Regulation; red tape	16	18
Taxes	10	8
Competition	24	24
Foreign competition	2	2
Other	12	14
	100%	100%

The profit picture shows a dramatic change for the Greater Lafayette area. Fifty-one percent of the firms reported profits higher than last year, up from 31% a year ago.

Firms reporting lower profits fell from 38% to 32%. Thus, nearly 70% experienced stable or rising profits in 1986 (see **Table 4**).

Employment

Employment plans weakened relative to a year ago. Forty-six percent of the respondents plan to increase employment, down from 50% a year ago. The average planned increase, however, was up from nine in 1985 to 11 employees per firm. Those planning employment reductions rose two percentage points to 6%. The average planned reduction rose from 15 employees to 50 in 1986 (see **Table 5**). The net average planned increase fell from 3.1 employees per firm in 1985 to 2 in 1986. If this is representative of all firms, employment should remain stable at its current record-high level.

Planned Capital Outlays

In 1985, 65% of the reporting firms planned to make some type of capital outlay during 1986. At this point in the expansion, capital spending plans are still frequent, even though there is rising uncertainty about the future course of sales and demand. Sixty-four percent plan capital outlays, with equipment and vehicles continuing to be the primary focus (see **Table 6**).

Most Important Problems

For the third year in a row, the major concern of local firms remained *competition*. Problems with regulations and red tape have become relatively more important in the past three years (18% mentioned it as the most important problem in 1986, up from 11% in 1984), while inflation has faded as a #1 issue. Weak sales continue to be a concern for 16% of reporting firms. The availability of skilled labor increased in relative importance, while labor cost concerns diminished (see **Table 7**).

Forecast

The overall outlook appears quite positive for 1987. Although growth is not expected to match the pace of earlier expansion years, firms remain, on balance, optimistic about future sales. This optimism has been translated into continued plans to hire additional employees and make new capital outlays. The course of the national economy has become more uncertain, leaving its mark on the local economy. Even a minor deterioration from current levels will be a good outcome for the fifth year of this expansion. □

Gary—Hammond—East Chicago (Calumet Area)

Leslie P. Singer

Professor and Coordinator of Economics, Indiana University Northwest

The 1987 outlook for northwest Indiana is dominated by the strike against USX. The Gary plant of USX is no longer the biggest steel employer in the region, yet the work stoppage may have serious long-run effects.

The conflict between the steel union and the company is a classic case of what economists call *asymmetrical bargaining*. Namely, the union and the company base their respective strategies on information that is private to each participant.

The USW asserts that the company aims at reducing the current average total hourly wage and benefit rate from $24.21 to $20.87. USX claims that it is proposing a reduction from a current hourly rate of $25.35 to $22.99.

Wages and Marginal Revenue Product

Clearly, on the surface the money issue does not appear to be significant. One must look to basic economics for a more fundamental cause of dissension. In the long run, wages cannot exceed marginal revenue product. In other words, the mean hourly wage cannot exceed the contribution an hour of labor makes to the net revenue from the sale of a ton of steel.

Collective bargaining in steel and in most other manufacturing has been able to raise real long-run wages when marginal revenue product was rising, which was the case in the 1960s and 1970s. On the other hand, collective bargaining has failed to devise a mutually acceptable formula for the reduction of long-run real wages when marginal revenue product is declining.

Collective bargaining has failed to devise a mutually acceptable formula for the reduction of long-run real wages when marginal revenue product is declining.

The issue in the USX dispute is the stance taken by the USW, which condones wage reductions for steel companies threatened with bankruptcy but not for companies that are financially sound, even if one operation—such as oil, in the case of USX—is subsidizing another operation, such as steel production.

The economics of the situation dictates that wages should converge to marginal

Northwest Indiana Employment
(Seasonally Adjusted Annualized Rates in Thousands of Employees)

	Actual			*Projected*					
	1986:2	*1986:3*	*1986:4*	*1987:1*	*1987:2*	*1987:3*	*1987:4*	*1988:1*	*1988:2*
Manufacturing employment	56.9	53.6	53.5	53.6	53.4	52.9	53.1	54.0	54.2
Steel mills	35.9	34.3	34.4	35.1	34.8	34.2	34.6	34.7	34.6
Other manufacturing	18.7	16.9	16.8	16.3	16.4	16.0	16.3	17.0	17.3
Petroleum	2.3	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.3
Nonmanufacturing employment	161.0	160.9	161.8	160.9	161.6	162.5	163.5	163.8	164.5
Construction	13.7	14.1	13.9	13.4	13.5	13.4	13.3	13.8	13.9
Transport, utilities	13.8	13.4	13.6	13.6	13.4	13.2	13.0	13.0	12.8
Trade	50.6	50.2	50.7	50.3	50.6	50.8	51.3	51.5	52.1
Health service	18.8	18.8	18.8	18.9	19.0	18.8	18.8	18.9	19.0
Other services	34.3	33.7	34.7	35.0	35.0	35.9	36.7	35.9	35.8
Government	29.8	30.7	30.1	29.7	30.1	30.4	30.4	30.7	30.9
Total employment	**217.9**	**214.5**	**215.3**	**214.5**	**215.0**	**215.4**	**216.6**	**217.8**	**218.7**
Annual growth rate	-1.57%				.97%			1.92%	

Note: Striking USX steel workers are added to totals.

revenue product regardless of the financial status of the firm. From the last quarter of 1985 to the fourth quarter of 1986, the value of steel output declined almost 7%, more than in any other manufacturing sector. (The second highest decline was 6.2% in farm machinery.) Output actually showed a small gain; thus, the drop in value was mostly due to the weakness of prices.

In order to bring wages more closely in line with falling marginal revenue product, one can try to raise the capital intensity of production. But that takes a long time and involves large quantities of funds both borrowed and internally generated (retained earnings), which the steel industry has not been able to do. The other alternative is cost cutting.

Owing to the inflexibility of the steel unions, much cost cutting must be accomplished by contracting out; that is, by discontinuing certain operations that were hitherto performed by high-priced union labor and then buying those services from outside contractors. The contractors perform the same service, often by rehiring the displaced labor at significantly lower wages. Close to 30% of local steel services can be contracted out.

The success of contracting out is a threat to the USW, which claims that such practices cause significant loss of jobs. However, this claim is misleading. The supposed job loss pertains only to union jobs covered by the steel contract. Some jobs would be lost because of changes in work rules and by introduction of flexible crew sizes.

The USW has observed massive restructuring of local steel operations and significant increases in labor productivity. In some steel operations, productivity advanced from six labor hours per ton of steel to little more than four labor hours per ton of steel. In some instances, labor cost fell to about 15% of the price of a ton of steel. In light of such statistics, the USW may feel justified in resisting company demands.

Labor Costs and Value Added

Labor costs as a percentage of the price of the final product are of little economic significance. What matters is labor costs as a proportion of value added; that is, as a proportion of the net increase in the value of all intermediate products after these are turned into raw steel by the mills.

In economically viable manufacturing industries, this proportion is about 50% and is fairly stable in the long run. When labor costs as a percentage of value added exceed 50%, the industries tend to experience difficulties. Retained earnings decline and balance-sheet losses appear. Investment in new capital is reduced.

This is what has been happening to local steel plants. In the 1980s, labor costs as a proportion of value added were about 60%. More recently, labor costs have declined, which may result in output and employment stabilization, if and when the USX work stoppage is terminated.

Forecast

Our forecast for 1987 and the first half of 1988 shows a slight upturn in manufacturing towards the end of the one-and-a-half-year period.

Nonmanufacturing employment is expected to resume its long upward trend.

Northwest Indiana has 24 large firms employing in excess of 1,000 employees. We expect some decline in employment in these firms, as cost-cutting measures continue in spite of a projected rise in output. The loss of jobs in the large manufacturing plants will be offset by employment gains in about 200 medium-sized firms, each providing between 100 and 500 jobs.

Manufacturing employment has declined slightly (see **Table**) because of the loss of income caused by the USX work stoppage that idled about 3,400 relatively high-paid workers. Consumer purchases were reduced by from 8 to 12% in various retail and professional service markets, except autos, which registered a slight increase.

We expect the impact of the work stoppage to wear off by about the middle of 1987. From then on, nonmanufacturing employment is expected to resume its long upward trend. Retail outlets are continuing to be built in Hammond, Merrillville, and in Porter County, as well as in Michigan City.

The flow of consumer expenditures is sustained by pensions and other transfer income, as well as by rising incomes earned by Indiana residents in the Greater Chicago metropolitan area. Our surveys indicate that commercial construction is likely to resume in 1987, but at a somewhat slower pace than in 1986. Most commercial projects will locate on sites farther east in LaPorte County and northeast Porter County.

A number of retailers report that consumers are purchasing a higher proportion of lower-priced appliances and furniture, bedding, and other hard goods than was the case last year. Some supermarkets have also noticed downgrading of meats and other higher-priced items.

Economists call this phenomenon shortening of the margin; namely lower-cost items with smaller profit margins are substituted for higher-priced items with larger profit margins. This is a common response of consumers to uncertainty, such as that generated in this area by the work stoppage in USX. Lower profit margins will slow down some commercial expansion.

Kokomo

Dilip Pendse

Associate Professor of Economics, Indiana University at Kokomo

No matter how you slice it, the major economic news of 1986 in Kokomo was the bankruptcy and liquidation of the 96-year-old steel operation, Continental Steel Corporation, Kokomo's fourth largest employer. With its demise, an im-

portant chapter in Kokomo's economic history has ended. The sad part is that, while two firms fought in the U.S. bankruptcy court to buy Continental's Joliet, Illinois, operation, none seriously contended for the obsolete facility in Kokomo. Not surprisingly, while the Joliet facility was sold for $12.1 million, the Kokomo plant was auctioned off for less than $6 million.

The ripple effects will be felt for years to come. The losers will include all levels of government, Public Service Indiana, retail businesses, financial institutions, the people of Kokomo, and, of course, people who lost jobs due to Continental's liquidation.

The major economic news of 1986 in Kokomo was the bankruptcy and liquidation of the 96-year-old steel operation, Continental Steel Corporation, Kokomo's fourth largest employer. The ripple effects will be felt for years to come.

On top of the loss of 1,150 jobs at the local plant, 500 to 700 jobs will be lost elsewhere in the economy. The city of Kokomo will lose $115,000 per year in local option income tax revenue. Additionally, there will be losses from property and excise tax revenues. The state treasury will lose about a million dollars a year in income tax revenues. Retail businesses could lose from $30 to $40 million in retail sales. Deposits at local financial institutions could drop by $3 to $5 million. These ripple effects will gather momentum in 1987.

The liquidation of Continental's operation was a major setback to the city's efforts to diversify the economy. Kokomo is now more dependent on the auto sector than ever before.

Along with Continental Steel Corporation, Kokomo's Delco Electronics and Cabot Corporation made economic news. In a turnabout, Cabot Corporation, Kokomo's third largest employer, announced its decision to create a spin-off independent company out of its local operation. A year ago, Cabot had announced its plans to sell the Kokomo operation. At least in the short run, its recent decision will mean at worst a decline, at best no change in the number of people employed at the plant.

Delco Electronics, Kokomo's largest employer, made news on two fronts. In April it celebrated its fiftieth anniversary. In the month following, however, it announced its plans to outsource from 1,700 to 3,400 jobs by 1990. In November, Delco's 7,700 UAW workers walked off their jobs on the issue of subcontracting and so-called outsourcing. The strike, which lasted for less than a week, crippled General Motors' assembly plants across the nation.

Merger Fever

In other economic developments, many area businesses caught the merger fever. Union Bank, Kokomo's largest and the state's twenty-fifth largest bank, merged with Ameri-Trust Corp. of Cleveland, Ohio. Summercorp, the state's fourth largest financial institution, acquired American Bank and Trust Co.'s operations in Kokomo. Hasten Bancorp, a multibank holding company of Indianapolis, acquired parent companies of Kokomo's First National Bank and Tipton's Farmers Loan and Trust Co.

In addition, the National Bank of Tipton, Tipton's second largest bank, merged with Merchant's National Bank, Indiana's third largest banking institution. Kokomo's United Presidential Life Insurance Corporation was acquired by Washington's National Insurance Corporation, and Tau Laboratories merged with DuPont. These acquisitions/mergers should move Kokomo into a bigger league.

Capital Expansion and Construction

On a brighter note, capital expansion and building construction plans worth $30 million were announced. They include renovation of shopping malls, expansions at Tau Lab and LTX's facilities, addition of hangars and other facilities at the Grissom Air Force base, a 150-room Holiday Inn, and a Chi-Chi's restaurant. When completed, these capital expansion and construction projects could generate 400 to 500 new jobs, mostly part-time.

Last year's average annual pay per worker in the area was 6.8% higher than in 1984 and ranked fourth highest in the nation. Since 1981, workers in Kokomo have seen their pay checks rise 33%, while during the same period the Consumer Price Index rose 22%, implying that wages have outpaced inflation.

Total volume of business during the first six months of 1986 was $1.98 billion, down 3% from the previous year. During the first 10 months of 1986, 1,500 jobs—about 3% of the labor force—vanished from Kokomo's economic scene.

Building permits rose 13%, to 715, during January-October of 1986. Much of the increase is attributable to an overall boom in residential construction. While permits for single-family homes rose 35% during the first 10 months, to 173, their dollar value climbed 63%, to $13.2 million. Permits for multifamily units increased sharply, from four units in the preceding year to 28 during the first ten months of 1986.

During the first 10 months of 1986, 1,500 jobs—about 3% of the labor force—vanished from Kokomo's economic scene.

While new houses were built at an increasing rate, more existing houses were sold in the brisk local real estate market. During the first three quarters of 1986, nearly 1,300 existing houses were resold, up 15% from the previous year.

Forecast

The economic forecast for the area is downbeat, given:

- The loss of Continental's operation;
- Delco's intentions to pursue the outsourcing strategy;
- A possible reduction in GM's auto production; and
- A more than likely slowdown in the national economy.

Kokomo's economy will likely slide downwards in 1987. The total volume of economic activity, which has risen continuously since 1980, should dip in 1987 to $3.25 billion. The average monthly labor force, which has risen continuously since 1983, will ease 3% to 42,000.

On the average, 5,100 breadwinners will remain jobless each month, 1,000 more than in 1986. The unemployment rate may crack the 14% mark, and the jobless rate may remain in double digits for most of next year.

Kokomo's misery index will edge upwards, and the number of failing businesses will rise.

Cash registers will ring less loudly next year than before. Retail sales will slip downward to $700 million, largely due to loss of jobs and cautious spending. Auto, appliance, furniture, and clothing sales will sag next year. The housing sector, in general, will remain sluggish. Kokomo's misery index will edge upwards, and the number of failing businesses will rise.

Although odds are heavy against a disastrous economic performance, leaner times lie ahead and a great deal of work is cut out for community leaders. □

Terre Haute

Marvin Fischbaum

Professor of Economics, Indiana State University

1986 marked the second straight year that the performance of the Terre Haute economy could be characterized as flat. In relative terms, the region has failed to keep pace with even the modest rate of expansion at the state or national level. The year was not without positive developments, and the area enters 1987 with a sense of both enhanced prospects and increased vulnerability.

1986 marked the second straight year that the performance of the Terre Haute economy could be characterized as flat. In relative terms, the region has failed to keep pace with even the modest rate of expansion at the state or national level.

Employment

In 1985 the unemployment rate in the Terre Haute MSA improved to respectable levels, and by September it stood at 6.1% without seasonal adjustment. In 1986 the unemployment estimate remained at a decent level, with the September estimate at 5.9% (or 6.9%, with seasonal adjustment).

Population declines in the Terre Haute area imply fairly substantial out-migration.

But 1985 gains came about primarily through a shrinkage in the labor force, and in 1986 that shrinkage continued. Year-to-year gains in establishment employment narrowed throughout 1985 and early 1986, and by midyear turned negative. By August 1986, establishment employment was estimated to be down 300 jobs from twelve months earlier.

Normally a region with average unemployment rates would be expected to have average employment opportunities. Such a region should experience little out-migration and thus attain modest growth in its population and labor force. Population declines in the Terre Haute area imply fairly substantial out-migration. The paradox might be resolved by noting that much area employment is part-time or low wage—but not "a living."

Plant closings continue to have an impact on the region. The major effect of the J. I. Case closing will be felt in early 1987. Patterson Equipment, whose plant was destroyed by fire, decided to rebuild in Paris, Illinois, rather than in Terre Haute. Inmed will be leaving Sullivan; the loss of 200 jobs may worsen that county's 12% unemployment rate. The loss of the IBM facility in Greencastle and its thousand-person payroll will be felt well beyond the borders of Putnam County. Residents of Clay County and the City of Brazil will be especially hard hit.

On a positive note, Terre Haute was a serious candidate for the Fuji-Isuzu plant that will be locating in Lafayette. One can take heart that an Indiana city won, that Terre Haute reportedly was runner-up, and that there may be positive spillovers locally. Specifically, the Plumbers and Steamfitters Union expects the $500 million project to provide much work for its membership.

Construction

Construction may well be a bright spot in the outlook for 1987. Nonresidential construction had been quite slow until midyear. But last winter a number of local enterprises announced plans for expansion, and by late summer or early autumn, a number of these, notably DADC and Donnelly Directory Co., started building. Downtown, a number of projects, some many years in the planning stage, broke ground this summer. They include:

- A new headquarters for First National Bank;
- A new office building to be tenanted by IBM;
- A four-unit office building, Foulkes Square, anchored by E. F. Hutton; and
- New offices for the Terre Haute Water Company.

Additionally, a city-owned, 400-space parking garage is in the works.

Conversely, residential construction, which has been strong by Terre Haute standards, may soften. 1986 saw no improvement in the resale housing market despite lower interest rates. While new building permits at least kept pace with

1985, the F. W. Dodge reports registered a decline.

For 1987, the strength in nonresidential construction should more than compensate for any slowdown in residential construction, and construction employment, which has been running level with 1985, should pick up.

For 1987, the strength in nonresidential construction should more than compensate for any slowdown in residential construction, and construction employment, which has been running level with 1985, should pick up.

Outlook

As we enter 1987, long-standing problems persist, and with that persistence comes increasing disquietude. The agricultural depression shows no sign of ending, and the difficulties of farmers are being felt by an ever widening circle of those with whom they do business. The factories that have closed have not been replaced with new industry, and other factories with aging facilities in stagnant or declining industries remain vulnerable. Alcan Aluminum, one of the largest of these, recently experienced layoffs.

The City of Terre Haute's acquisition of a 1500-acre prime industrial site certainly strengthens its competitive posture.

But favorable developments in 1986 also bring hope. The City of Terre Haute's acquisition of a 1500-acre prime industrial site certainly strengthens its competitive posture. The construction activity downtown should at least lessen one of Terre Haute's major disabilities—that of being physically unattractive. First impressions of the city are often unfavorable. In the future more visitors may stay long enough to discover positive attributes that are more than skin-deep. ☐

Richmond

Ashton I. Veramallay

Director, Center for Economic Education, Indiana University East

In October the business community in Wayne County was surveyed. Questionnaires were mailed to 600 businesspersons who own or manage firms that were listed in the 1986 membership directories of the Richmond Area Chamber of Commerce and Cambridge City Chamber of Commerce. Responses were received from 150 firms, representing, by type of economic activity:

- 33 manufacturing;
- 36 wholesale-retail;
- 34 service-oriented;
- 14 financial;
- 2 agricultural; and
- 31 other.

Altogether, these firms employ 13,126 persons, more than one-third of the county's active labor force.

The unemployment rate will hover around 10% for most of 1987.

In the manufacturing sector, most of the firms are tied to transportation equipment, electrical machinery, and nonelectrical machinery. In the nonmanufacturing sector, there is a potpourri of activities comprising banking, finance, wholesale and retail trade, real estate, building trades, communications, utilities, health and educational services, and miscellaneous services. By major industry division, manufacturing, trade, and services predominate not only in Wayne County but also in the five-county Region 9. Further, about 60% of regional employment activities reported to the Indiana Employment Security Division are concentrated in Wayne County, followed by Fayette with 25%, Rush with 9%, Franklin with 4%, and Union with 2%.

The Richmond economy, especially its manufacturing sector, is sensitive to the national economy. In terms of employment, output, and sales, current economic conditions affect:

- 27% of the reporting firms severely;
- 44% moderately;
- 19% slightly; and
- 10% not at all.

If this economic trend continues, the unemployment rate will hover around 10% for most of 1987.

The local unemployment picture could improve if there is sustained noninflationary growth at the national level and expansion or attraction of new enterprises at the local level.

The local unemployment picture, however, could improve if there is sustained noninflationary growth at the national level and expansion or attraction of new enterprises at the local level.

Richmond has had its share of economic woes. But with the intensification and diversification of efforts to stimulate economic development, it will rise like a phoenix. The hoped-for results will materialize in the long run. An overwhelming 73% of the reporting firms are optimistic about business conditions in 1987; 27% plan to expand, while 5% plan to contract.

As for the global picture, 87% of the reporting firms are in favor of foreign investments/firms coming to Richmond and Wayne County; 74% believe Richmond and Wayne County have the right climate to attract foreign investments/firms; and 85% are in favor of free trade among nations.

While 76% favor tax reform, 29%, concentrated particularly in manufacturing and wholesale and retail trade, expect adverse

consequences from it. The Tax Reform Act of 1986 eliminates investment tax credits and generous depreciation allowances for businesses with heavy investment in plant and equipment. These provisions can have far-reaching consequences for plant modernization and competitive posture.

The eventual elimination of sales tax deductions and finance charges on credit cards by the Tax Reform Act of 1986 could constrain consumer spending.

As for the global picture, 87% of the reporting firms are in favor of foreign investments firms coming to Richmond and Wayne County; 74% believe Richmond and Wayne County have the right climate to attract foreign investments firms; and 85% are in favor of free trade among nations.

Overall, the local economy is expected to experience moderate growth during 1987, although this expectation is dependent on the performance of the national economy. Retail trade will benefit from the real growth in disposable personal income. However, this growth will not be so robust as in previous years because consumers, given their low savings and high debt ratios, are financially exhausted. The eventual elimination of sales tax deductions and finance charges on credit cards by the Tax Reform Act of 1986 could also constrain consumer spending.

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Bob J. Lain

Indiana 1986: The Economic Year in Perspective

In this issue...

Bob Lain has captured this entire issue with an article of great usefulness. Here are both a review of changes in the Indiana economy during the past year and a view of 1986 in the perspective of the past decade. We can see from the many graphs and tables just where we are and where we have been.

Many grapns and tables may be a delight for the reader, but for Judy Schroeder, Kristi Hayes, David Cox, and Dianne Vandivier, they are a test of patience and ingenuity. Not blessed with the latest equipment for modern editing work, this diligent staff regularly turns the (unprintable) into readable articles which appear to be the products of rational, literate persons. As ever, we salute their good efforts and extend our appreciation, even if we fail to mention it again in this century.

Among our frequently unmentioned sentiments of appreciation are the words of thanks that must be extended to Charles Mazza and the staff of the Indiana Employment Security Division. Each month, quarter, and year they provide this office and the entire state with the basic business data from which most analysis, estimation, and forecasting necessarily flow. Without their reliable and responsive assistance we would be ignorant of the essentials of our state's economy. IESD deserves a special expression of gratitude from us and all Hoosiers. Too bad they will never get more than these few obscurely placed words.

M.J.M.

Indiana 1986: The Economic Year in Perspective

Bob J. Lain

The author is a research associate for the Indiana Business Research Center.

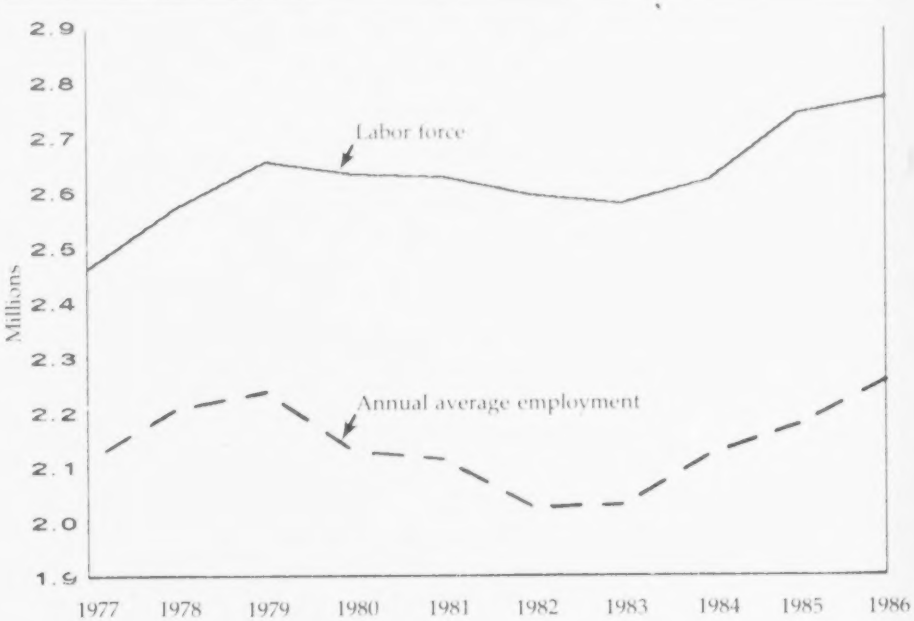
Indiana's economy has undergone a tremendous amount of change over the course of the last decade. As the State entered 1979, it seemed firmly entrenched on a path of economic growth. However, this proved to be an illusion; instead, 1980 marked the beginning of a long and deep decline in economic activity. In 1982, after four years of contraction, there were signs that Indiana was beginning to recover. The following year, a generalized expansion in economic activity began in earnest, an expansion which lasted through 1986.

On the surface, this upswing after such a severe downturn appears quite impressive. In 1986, total nonagricultural employment was higher than in 1979, the previous peak year for employment. The State's unemployment rate dropped to its lowest level in six years. Earnings from employment, after adjusting for inflation, rose 3.4% during the year, while personal income, also adjusted for inflation, increased by 2.1%.[1] Spurred on by this increase in income, spending for consumer goods and new residential construction activity also showed healthy increases.

In short, Indiana continued to regain much of the ground lost during the recent slump. However, to pronounce the Indiana economy alive and well, based on this picture, is to ignore the underlying structural changes that are transforming it.

1. All inflation adjustments were made using the Consumer Price Index.

Figure 1
Average Annual Employment* and Labor Force Estimates for Indiana, 1977-1986



Source: Indiana Employment Security Division. *Excludes agricultural employment.

A closer examination reveals that not all sectors of the economy have participated in the expansion to the same degree. The manufacturing sector, for example, has failed to join the economic growth bandwagon. In addition, not all geographic areas of the State have benefited from the upturn. Many counties actually lost ground during 1986. In order to accurately gauge the performance of Indiana's economy, an in-depth study is required.

Not all sectors of the economy have participated in the expansion to the same degree. The manufacturing sector, for example, has failed to join the economic growth bandwagon.

This article presents a comprehensive picture of Indiana's economic performance during 1986. If the data presented here are to have any meaning as measures of performance, the historical record must provide the framework. The 1977-1986 period seems appropriate for this purpose. During this time the State experienced:

- The end of an expansionary phase;
- A subsequent contractionary phase; and
- A new period of economic growth.

From this analysis, it is hoped, will emerge a better understanding of where the State's economy is now, as well as a better sense of where it has been.

Figure 2
Average Annual Unemployment Rates for Indiana and the U.S., 1977-1986

Source: Indiana Employment Security Division and U.S. Bureau of Labor Statistics.

Table 1
Indiana Labor Market Estimates, 1977-1986

Year	*Total Employment (Thousands)*	*Unemployment (Thousands)*	*Labor Force (Thousands)*	*Unemployment Rate (Percent)*
1977	2,114.0	123.1	2,462.5	5.0%
1978	2,205.5	146.0	2,571.0	5.7
1979	2,236.3	169.0	2,656.0	6.4
1980	2,129.5	252.0	2,632.0	9.6
1981	2,114.5	264.0	2,627.0	10.0
1982	2,028.1	310.0	2,594.0	11.9
1983	2,029.5	286.0	2,578.0	11.1
1984	2,122.3	226.0	2,621.0	8.6
1985	2,176.7	221.4	2,741.0	8.1
1986	2,254.6	187.4	2,769.4	6.8

Source: *Indiana Labor Market Letter* (monthly), Indiana Employment Security Division.

Employment

Average annual nonagricultural employment in Indiana rose to an estimated 2.25 million in 1986. This increase of approximately 78,000, or 3.6%, brought total employment in the State to a level that surpassed that of 1979, when employment was an estimated 2.23 million. Since 1982, employment in Indiana has increased by approximately 226,000, or just over 11%. By comparison, total nonagricultural employment in the U.S. increased by almost 18% during the same

Table 2
Indiana Employment and Change in Employment by County, 1985 to 1986

County	Employment 1986 Number	Rank	% Change 85-86 %	Rank	County	Employment 1986 Number	Rank	% Change 85-86 %	Rank
Adams	14,244	46	1.5	64	Lawrence	177,000	36	3.0	42
Allen	146,933	3	3.5	37	Madison	57,525	8	1.1	69
Bartholomew	29,438	23	-14.7	92	Marion	397,617	1	3.6	31
Benton	4,349	88	-0.4	83	Marshall	20,304	86	0.8	72
Blackford	7,045	80	-2.8	90	Martin	4,829	86	0.8	72
Boone	19,733	32	3.6	33	Miami	15,633	43	5.8	8
Brown	5,704	85	2.0	57	Monroe	56,350	9	5.0	14
Carroll	8,864	69	2.6	49	Montgomery	17,692	37	2.8	47
Cass	18,735	34	1.2	68	Morgan	27,496	24	3.6	30
Clark	43,258	15	4.1	19	Newton	6,975	82	-0.7	85
Clay	10,168	63	0.4	74	Noble	19,888	31	2.9	44
Clinton	14,406	45	2.8	45	Ohio	2,096	92	4.1	22
Crawford	4,673	87	4.5	16	Orange	8,586	70	2.1	55
Daviess	12,173	55	3.0	41	Owen	7,888	74	9.2	1
Dearborn	17,900	35	4.2	18	Parke	74,81	76	6.5	3
Decatur	11,046	59	5.4	11	Perry	7,457	77	-1.6	87
DeKalb	16,629	41	3.6	34	Pike	6,088	84	1.5	61
Delaware	55,300	10	1.8	59	Porter	46,292	12	-0.2	81
Dubois	19,908	30	6.3	4	Posey	12,529	52	1.5	62
Elkhart	85,742	5	4.0	23	Pulaski	6,300	83	5.1	13
Fayette	10,738	61	5.8	7	Putnam	12,517	53	5.7	10
Floyd	30,450	22	4.2	17	Randolph	12,160	56	0.7	73
Fountain	7,014	81	-0.6	84	Ripley	11,288	58	3.9	24
Franklin	8,276	71	-0.1	79	Rush	8,023	73	1.5	63
Fulton	9,533	67	0.2	77	St. Joseph	119,092	4	2.2	53
Gibson	15,908	42	3.6	25	Scott	9,769	65	6.0	6
Grant	34,242	19	-0.2	82	Shelby	20,658	28	3.6	32
Greene	13,550	48	1.8	60	Spencer	9,724	66	3.6	26
Hamilton	45,658	14	3.6	28	Starke	8,199	72	6.0	5
Hancock	22,767	25	3.6	29	Steuben	15,010	44	8.0	2
Harrison	13,756	47	4.1	20	Sullivan	7,320	78	0.3	76
Hendricks	37,375	18	3.5	38	Switzerland	2,665	91	-1.7	89
Henry	21,546	26	2.9	43	Tippecanoe	62,417	7	2.0	56
Howard	38,425	17	-1.3	86	Tipton	7,188	79	-1.7	88
Huntington	17,502	38	2.8	46	Union	2,973	90	1.0	70
Jackson	16,642	40	3.5	36	Vanderburgh	80,383	6	1.5	65
Jasper	12,456	54	0.9	71	Vermillion	7,865	75	-0.2	80
Jay	9,026	68	1.8	58	Vigo	46,033	13	0.4	75
Jefferson	12,052	57	1.3	67	Wabash	16,717	39	2.7	48
Jennings	10,106	64	3.4	39	Warren	3,715	89	5.8	9
Johnson	41,783	16	3.6	27	Warrick	21,471	27	1.4	66
Knox	18,971	33	2.3	51	Washington	10,300	62	5.4	12
Kosciusko	32,792	20	5.0	15	Wayne	32,283	21	-7.6	91
Lagrange	12,742	51	2.3	52	Wells	12,960	50	4.1	21
Lake	186,950	2	-0.1	78	White	10,803	60	3.3	40
LaPorte	46,908	11	2.5	50	Whitley	13,446	49	3.5	35

Source: *Labor Force Estimates* (monthly), Indiana Employment Security Division.

Figure 3
Percent Growth in Indiana Employment by County, 1985-1986

Source: Indiana Employment Security Division.
State average = 2.4%.

period.[2] **Figure 1** shows the average annual employment and the average annual labor force in Indiana from 1977 to 1986.

The ranks of the unemployed in the State shrank by an estimated 34,000, or 15%, in 1986. At the same time, the labor force increased by approximately 28,000, or 1%. The result was a sharp decline in Indiana's unemployment rate to 6.8%, its lowest level in six years.

The State's unemployment rate fell below the national rate for the first time in eight years.

In addition, the State's unemployment rate fell below the national rate for the first time in eight years. **Figure 2** is a graphic comparison of these two rates. **Table 1** gives a detailed summary of Indiana's labor market over the past decade.

As the above discussion points out, conditions in Indiana's aggregate labor market have improved considerably since 1982. However, as **Table 2** and **Figure 3** reveal, employment gains in 1986 were not well diffused throughout the State. During the year, employment declined in 15 Indiana counties. An additional 25 counties experienced an increase which was less in percentage terms than the average for all counties of 2.4%.

2. *Employment and Earnings*, U.S. Department of Commerce Bureau of Labor Statistics.

Table 3
Indiana Unemployment Rates and Changes in Unemployment Rates by County, 1985 to 1986

	Unemployment 1986		*Change 85-86*			*Unemployment 1986*		*Change 85-86*	
County	*Rate*	*Rank*	*Change*	*Rank*	*County*	*Rate*	*Rank*	*Change*	*Rank*
Adams	5.5	19	-1.4	42	Lawrence	8.7	70	-2.4	11
Allen	5.4	18	-0.9	67	Madison	6.3	38	-0.9	70
Bartholomew	6.7	44	-0.8	73	Marion	5.5	20	-1.1	59
Benton	8.0	64	0.1	88	Marshall	6.1	31	-1.3	54
Blackford	10.2	86	0.9	90	Martin	8.5	69	-0.9	68
Boone	2.9	1	-0.7	75	Miami	6.7	42	-1.2	58
Brown	5.7	23	-0.5	79	Monroe	3.9	5	-1.6	31
Carroll	5.7	22	-1.5	39	Montgomery	4.9	13	-1.3	50
Cass	7.1	50	-1.4	45	Morgan	6.2	33	-1.3	53
Clark	6.5	40	-1.8	26	Newton	7.3	54	-0.4	81
Clay	6.7	43	-0.8	72	Noble	6.3	34	-1.5	38
Clinton	7.2	53	-2.2	14	Ohio	10.0	84	-6.6	1
Crawford	9.9	79	-1.5	32	Orange	9.0	71	-1.3	46
Daviess	7.6	61	-1.7	30	Owen	7.3	56	-1.9	19
Dearborn	7.2	52	-2.1	15	Parke	7.3	55	-1.3	49
Decatur	6.1	30	-1.9	20	Perry	12.1	92	-3.4	3
DeKalb	5.0	15	-1.7	27	Pike	9.2	74	-0.4	80
Delaware	7.1	48	-1.1	60	Porter	10.1	85	0.9	89
Dubois	4.7	9	-1.0	66	Posey	5.2	16	-1.0	65
Elkhart	4.9	12	-1.4	44	Pulaski	6.3	37	-1.5	37
Fayette	9.9	80	-4.6	2	Putnam	5.8	25	-2.3	13
Floyd	6.0	28	-1.1	61	Randolph	9.6	77	0.0	87
Fountain	9.9	81	-2.7	6	Ripley	6.6	41	-2.1	16
Franklin	7.2	51	-2.6	8	Rush	7.5	58	-1.4	41
Fulton	5.7	21	-1.3	48	St Joseph	5.8	26	-1.1	63
Gibson	7.1	49	-1.7	29	Scott	9.8	78	-2.6	7
Grant	8.1	67	-0.6	78	Shelby	6.8	46	-1.3	52
Greene	10.0	83	-1.2	57	Spencer	7.9	63	-1.2	55
Hamilton	3.6	4	-0.4	82	Starke	10.7	88	-1.3	51
Hancock	3.6	3	-0.9	69	Steuben	5.2	17	-1.3	47
Harrison	6.2	32	-1.5	36	Sullivan	12.0	91	-0.3	83
Hendricks	3.2	2	-0.6	77	Switzerland	11.2	89	-2.3	12
Henry	8.0	65	-1.5	33	Tippecanoe	3.9	6	-0.8	74
Howard	9.1	72	1.7	92	Tipton	7.6	60	1.6	91
Huntington	6.3	35	-0.9	71	Union	6.3	36	-1.8	23
Jackson	7.9	62	-3.0	4	Vanderburgh	6.0	27	-1.5	35
Jasper	9.6	76	-0.3	84	Vermillion	9.5	75	-2.7	5
Jay	10.3	87	-1.8	24	Vigo	7.1	47	-1.4	40
Jefferson	9.2	73	-2.5	10	Wabash	5.8	24	-1.7	28
Jennings	6.8	45	-2.6	9	Warren	7.5	59	-2.1	17
Johnson	4.8	11	-0.6	76	Warrick	6.0	29	-0.2	86
Knox	7.4	57	-1.8	25	Washington	6.4	39	-1.8	22
Kosciusko	4.0	7	-1.1	62	Wayne	9.9	82	-0.3	85
Lagrange	4.9	14	-1.4	43	Wells	4.6	8	-1.9	21
Lake	11.9	90	-1.0	64	White	8.1	68	-2.0	18
LaPorte	8.1	66	-1.2	56	Whitley	4.8	10	-1.5	34

Source: *Labor Force Estimates* (monthly), Indiana Employment Security Division.

Figure 4
Unemployment Rates in Indiana by County, 1986

Source: Indiana Employment Security Division.
State average = 7.2%.

Furthermore, as **Table 3** makes clear, the 1986 unemployment rate county by county showed a great deal of variation, ranging from a low of 2.9% to a high of 12.1%. As **Figure 4** shows, those counties possessing low unemployment rates tended to be concentrated in the central and northeastern portions of the State.

Nonmanufacturing employment. Not only were the gains in employment spread unevenly across the State geographically, but not all industries contributed proportionately to the growth. Manufacturing-related employment continued to decline, making the nonmanufacturing sector the sole supplier of employment gains. **Table 4** shows a breakdown of nonmanufacturing employment by major industry type for selected years.

Manufacturing-related employment continued to decline, making the nonmanufacturing sector the sole supplier of employment gains.

Employment not involved in manufacturing increased by an estimated 89,000, or nearly 6%, continuing an expansionary trend begun in 1982. Since that time, by growing at an average annual rate of almost 4% per year, employment in this sector has increased to an estimated 1.65 million. Relative to 1977, employment in this sector has increased by approximately 254,000, with 85% of this increase occurring since 1982. **Figure 5** shows the trend in nonmanufacturing employment during the past decade.

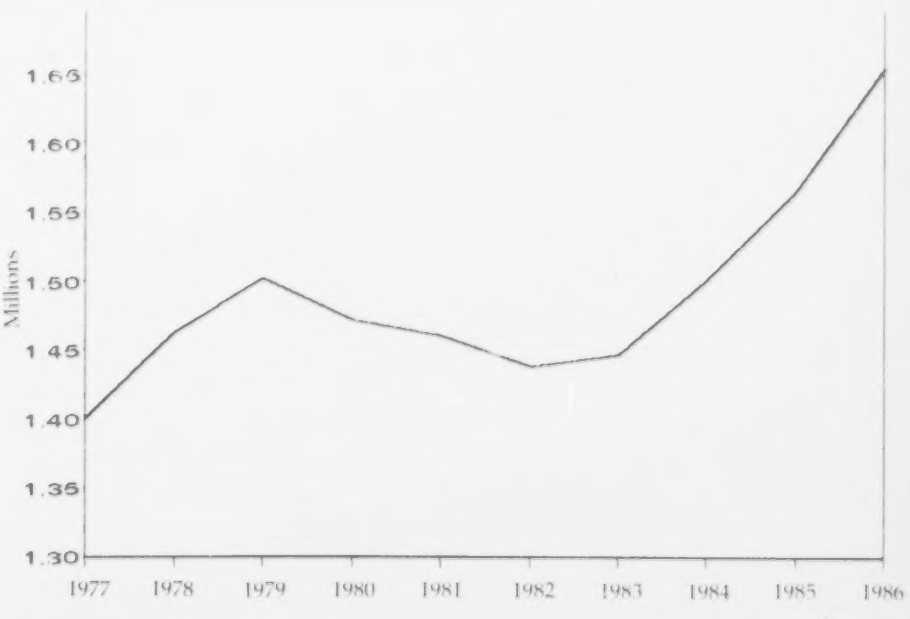
Mining and Quarrying. Within the nonmanufacturing sector, only the mining and quarrying industry reduced employment during 1986. This decline does not appear to be part of a long-term trend; employment in mining and quarrying has increased by an estimated 1,000 since 1977.

Table 4
Nonmanufacturing Employment in Indiana
by Major Industry Type for Selected Years, 1977-1986
(in Thousands)

Industry	*1977*	*1979*	*1982*	*1986*
Mining, quarrying	8.3	10.2	10.3	9.3
Contract construction	91.9	106.0	77.1	102.2
Finance, insurance, real estate	94.0	101.3	102.7	111.7
Wholesale, retail trade	459.3	494.4	460.0	547.9
Services, miscellaneous	299.8	331.7	357.0	431.4
Trans., communications, public util.	105.6	111.8	103.4	113.8
Government	342.0	347.6	328.6	339.1
Total	**1400.9**	**1503.1**	**1439.1**	**1655.4**

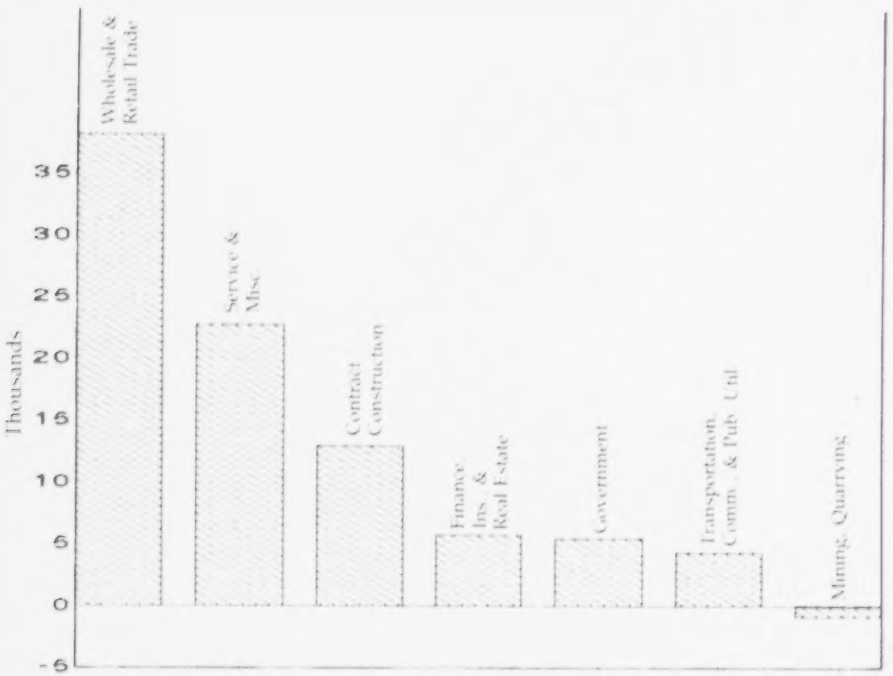
Source: *Indiana Labor Market Letter* (monthly), Indiana Employment Security Division.

Figure 5
Annual Nonmanufacturing Employment* in Indiana, 1977-1986



Source: Indiana Employment Security Division.
*Excludes agricultural employment.

Figure 6
Change in Average Annual Nonmanufacturing Employment in Indiana by Major Industry Type, 1985-1986



Source: Indiana Employment Security Division.

Figure 7
Average Annual Manufacturing Employment in Indiana, 1977-1986

Source: Indiana Employment Security Division.

Wholesale and Retail Trade, Service. Employment in wholesale and retail trade rose by an estimated 38,000. This increase, along with the addition of approximately 23,000 new employees by those firms classified as service/miscellaneous nonmanufacturing, accounted for almost 69% of the total increase in this sector. It is interesting to note that those firms classified as service/miscellaneous accounted for an estimated 52% of the increase in nonmanufacturing employment during the period 1977-1986, while almost 35% can be traced to wholesale and retail trade. These two industries have a history of accounting for most of the growth in nonmanufacturing employment.

Those firms classified as service/miscellaneous accounted for an estimated 52% of the increase in nonmanufacturing employment during the period 1977-1986, while almost 35% of the increase can be traced to wholesale and retail trade.

Contract Construction, Government. Employment in the contract construction industry increased the most in percentage terms—almost 15%—during 1986. By increasing slightly less than 2%, government employment expanded the least in percentage terms. From 1977 to 1986, employment in contract construction increased by 11%, while government employment actually declined slightly.

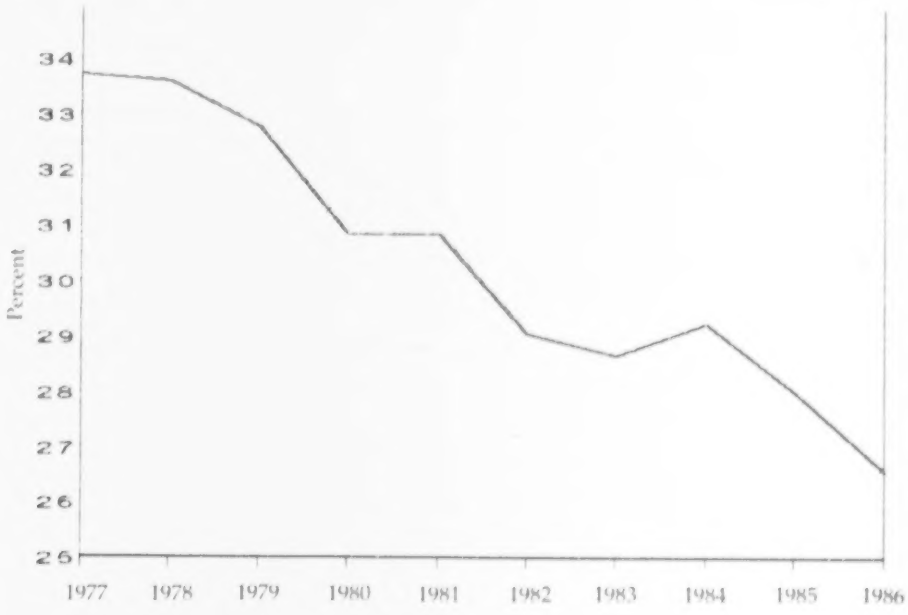
The change in nonmanufacturing employment from 1985 to 1986 by major industry type is shown in **Figure 6**.

In 1978, manufacturing-related employment in Indiana totaled an estimated 741,000. With the exception of 1984, annual employment in manufacturing has decreased every year since that time. This downward trend has been both consistent and dramatic.

Manufacturing. In 1978, manufacturing-related employment in Indiana totaled an estimated 741,000. With the exception of 1984, annual employment in manufacturing has decreased every year since that time. As **Figure 7** reveals, this downward trend has been both consistent and dramatic.

The loss of an estimated 11,000 jobs in 1986 reduced employment in the State's goods-producing sector to approximately 599,000. In 1977, manufacturing-related employment accounted for just under 34% of the total nonagricultural employment in the State (see **Figure 8**). Over the course of the past decade, this share has moved in an erratic but generally downward direction. In 1986, manufacturing's share of total employment fell to just under 27%, the lowest point in ten years.

Figure 8
Manufacturing Employment as a Percentage of Total Employment in Indiana, 1977-1986



Source: Indiana Employment Security Division.

Table 5
Manufacturing Employment in Indiana by Major Industry Type for Selected Years, 1977-1986 (in Thousands)

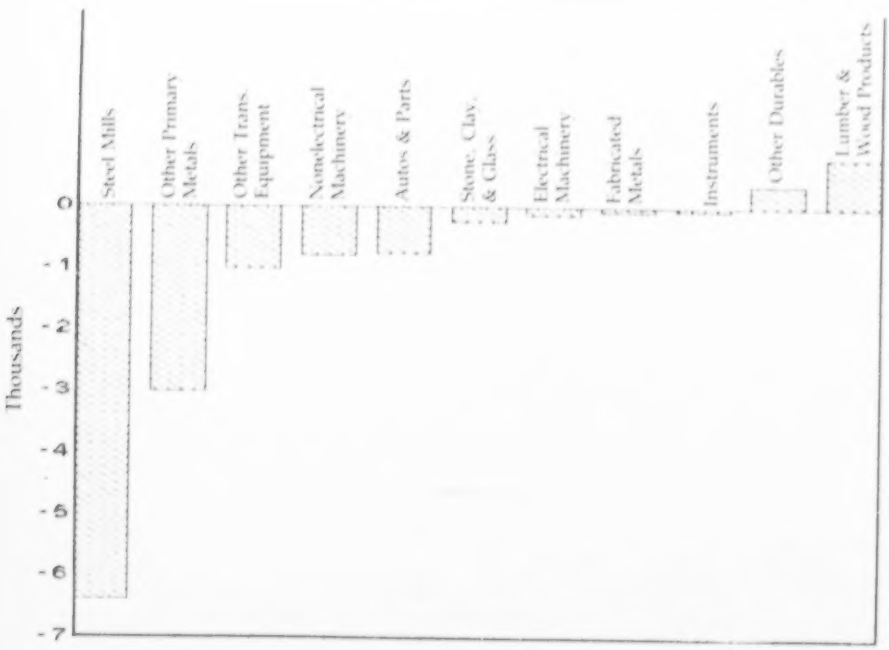
Industry	*1977*	*1979*	*1982*	*1986*
Durable goods	***547.6***	***564.8***	***435.3***	***432.6***
Lumber, wood products	20.7	22.0	16.2	20.6
Furniture, fixtures	21.8	21.0	18.0	20.9
Stone, clay, glass	24.8	25.1	19.1	18.3
Primary metals	106.2	112.1	87.7	65.1
Steel mills	68.1	71.5	56.7	36.2
Fabricated metals	62.2	63.7	48.7	55.1
Nonelectrical machinery	75.9	81.7	64.9	64.1
Electrical machinery	113.6	114.2	88.9	86.1
Transportation equipment	101.9	102.9	71.3	79.8
Autos, parts	65.3	64.6	40.0	46.4
Instruments	10.8	12.5	11.4	12.6
Other durable goods	9.9	9.8	9.1	10.0
Nondurable goods	***165.6***	***168.4***	***154.2***	***166.6***
Food products	38.9	38.5	36.4	35.6
Apparel, textiles	13.6	12.1	9.1	10.0
Paper products	14.7	14.4	11.5	11.8
Printing, publishing	29.8	31.2	30.0	33.2
Chemicals	26.7	28.5	29.0	29.6
Petroleum refining	4.5	4.5	4.0	3.7
Rubber, plastics	34.7	36.6	31.6	40.5
Other nondurables	2.7	2.7	2.6	2.3
Total	***713.2***	***733.2***	***589.0***	***599.8***

Source: *Indiana Labor Market Letter* (monthly), Indiana Employment Security Division.

Figure 9
Average Annual Employment Engaged in the Production of Durable Goods in Indiana, 1977-1986

Source: Indiana Employment Security Division.

Figure 10
Change in Annual Employment Engaged in the Production of Durable Goods in Indiana, 1985-1986, by Major Industry Type



Note: No significant change occurred in the Furniture & Fixture category.
Source: Indiana Employment Security Division.

Durable Goods. The loss of manufacturing jobs in 1986 can be traced to the durable goods sector, where employment declined by an estimated 12,000 (see **Table 5** and **Figure 9**). By far the largest number of job losses occurred in the primary metals industry, where employment declined by more than 9,000. Indiana's steel industry, where employment fell by more than 6,000, accounted for more than 68% of this decline. Significant reductions also occurred in the transportation equipment industry, where employment declined by almost 2,000. The only durable goods industries to increase employment during 1986 were those producing lumber and wood products and miscellaneous durable goods (see **Figure 10**).

Nondurable Goods. Employment engaged in the production of nondurable goods during 1986, at 166,000, did not change significantly from 1985. (Employment in the nondurable goods industries is shown in **Figure 11**.) Nor, as **Figure 12** illustrates, did any significant changes occur among the industries in this sector.

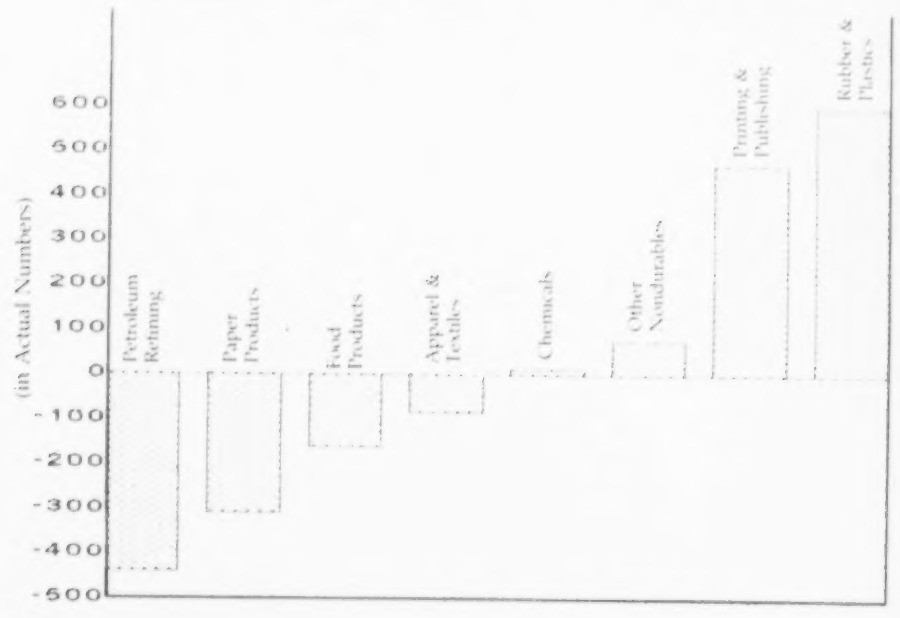
Relative stability has characterized the employment patterns in this sector during the past decade. Between 1979 and 1982, employment fell by 16,000, to a total of 154,000. Since that time, an upward trend has persisted, providing an average annual growth rate of 2%.

In part, the decrease in manufacturing employment can be traced to an increased number of labor disputes. Most notably, Indiana was hit with the longest strike in the steel industry's history. According to the Indiana Employment Security Division, the number of workers engaged in labor disputes in Indiana increased by 96% during 1986. However, although it is difficult to isolate the total effects of strike activity, it seems unlikely that labor disputes accounted for all of the decline in manufacturing employment during the year.

Figure 11
Average Annual Employment Engaged in the Production of Nondurable Goods in Indiana, 1977-1986

Source: Indiana Employment Security Division.

Figure 12
Change in Annual Employment Engaged in the Production of Nondurable Goods in Indiana by Major Industry Type, 1985-1986



Source: Indiana Employment Security Division.

Table 6
Non-Farm Earnings in Indiana
by Major Sector for Selected Years, 1977-1986
(in Millions of Current Dollars)

Sector	*1977*	*1979*	*1982*	*1986*
Ag. serv., forestry, fisheries	60.0	71.0	128.0	168.3
	0.2	*0.2*	*0.3*	*0.3*
Mining, quarrying	201.0	281.2	425.5	421.6
	0.7	*0.8*	*1.0*	*0.8*
Contract construction	1,711.5	2,246.0	2,346.2	3,212.0
	6.0	*6.4*	*5.8*	*6.1*
Manufacturing	12,111.5	14,828.7	14,969.2	18,142.3
	42.5	*42.2*	*37.1*	*34.9*
Finance, insurance, real estate	1,244.7	1,560.7	1,741.7	2,580.3
	4.3	*4.4*	*4.3*	*4.9*
Wholesale, retail trade	4,382.7	5,358.7	6,161.2	7,894.3
	15.3	*15.2*	*15.3*	*15.2*
Trans., communications, pub.util	1,989.2	2,455.7	3,008.2	3,721.6
	6.9	*7.0*	*7.4*	*7.1*
Services, miscellaneous	3,419.5	4,228.5	6,262.0	9,107.3
	12.0	*12.0*	*15.5*	*17.5*
Government	3,365.7	4,033.2	5,217.5	6,630.3
	11.8	*11.5*	*12.9*	*12.7*
Total	**28,486.0**	**35,064.0**	**40,259.7**	**51,878.3**
	100.0	*100.0*	*100.0*	*100.0*

Source: Bureau of Economic Analysis, U.S. Department of Commerce.
Figures in italics show percent of total.

Table 7
Non-Farm Earnings in Indiana
by Major Sector for Selected Years, 1977-1986
(in Millions of 1967 Dollars)

Sector	*1977*	*1979*	*1982*	*1986*
Ag. serv., forestry, fisheries	33.6	32.7	44.3	51.3
Mining, quarrying	110.7	129.3	147.2	128.5
Contract construction	9,758.4	1,032.9	811.5	978.5
Manufacturing	3,675.6	6,819.4	5,177.5	5,527.0
Finance, insurance, real estate	685.8	717.8	602.4	786.1
Wholesale, retail trade	2,414.7	2,464.4	2,131.0	2,405.0
Trans., communications, pub.util.	1,096.0	1,129.3	1,040.5	1,133.8
Services, miscellaneous	1,884.0	1,944.6	2,165.9	2,774.5
Government	1,854.4	1,854.8	1,804.6	2,019.9
Total	**15,694.8**	**16,125.1**	**13,924.9**	**15,804.5**

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

Income

Employment earnings in Indiana rose to an estimated $51.8 billion in 1986 (see **Table 6**). Real earnings—that is, earnings adjusted for inflation—increased by approximately 3.2%, to $15.8 billion (see **Table 7**). Nominal earnings have grown by an average of 7% per year since 1977.

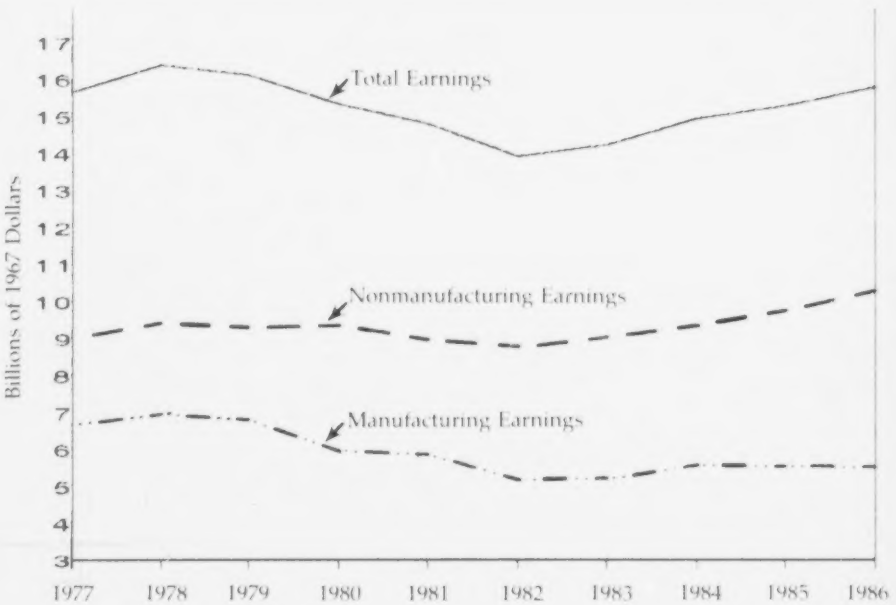
Real earnings, having declined for several years following 1978, have risen by less than 1% during the past decade. The sources and history of earnings are shown in **Figure 13** and **Figure 14**.

The decline in real earnings from 1979 to 1982 is mainly attributable to the manufacturing sector. Between 1979 and 1982, real earnings from the production of goods in the State declined by 22%. Since that time, real earnings from manufacturing employment have increased by 7%, leaving the 1986 total some $1.2 billion below the 1979 total for the manufacturing sector. In 1986, real earnings in this sector decreased for the sixth time in ten years; they fell to $5.5 billion.

Real earnings in the nonmanufacturing sector increased by an estimated $525 million in 1986, to a total of approximately $10.3 billion. Earnings in this sector, like earnings in manufacturing, declined during the period from 1979 to 1982. However, for the entire decade, they increased by almost 14%.

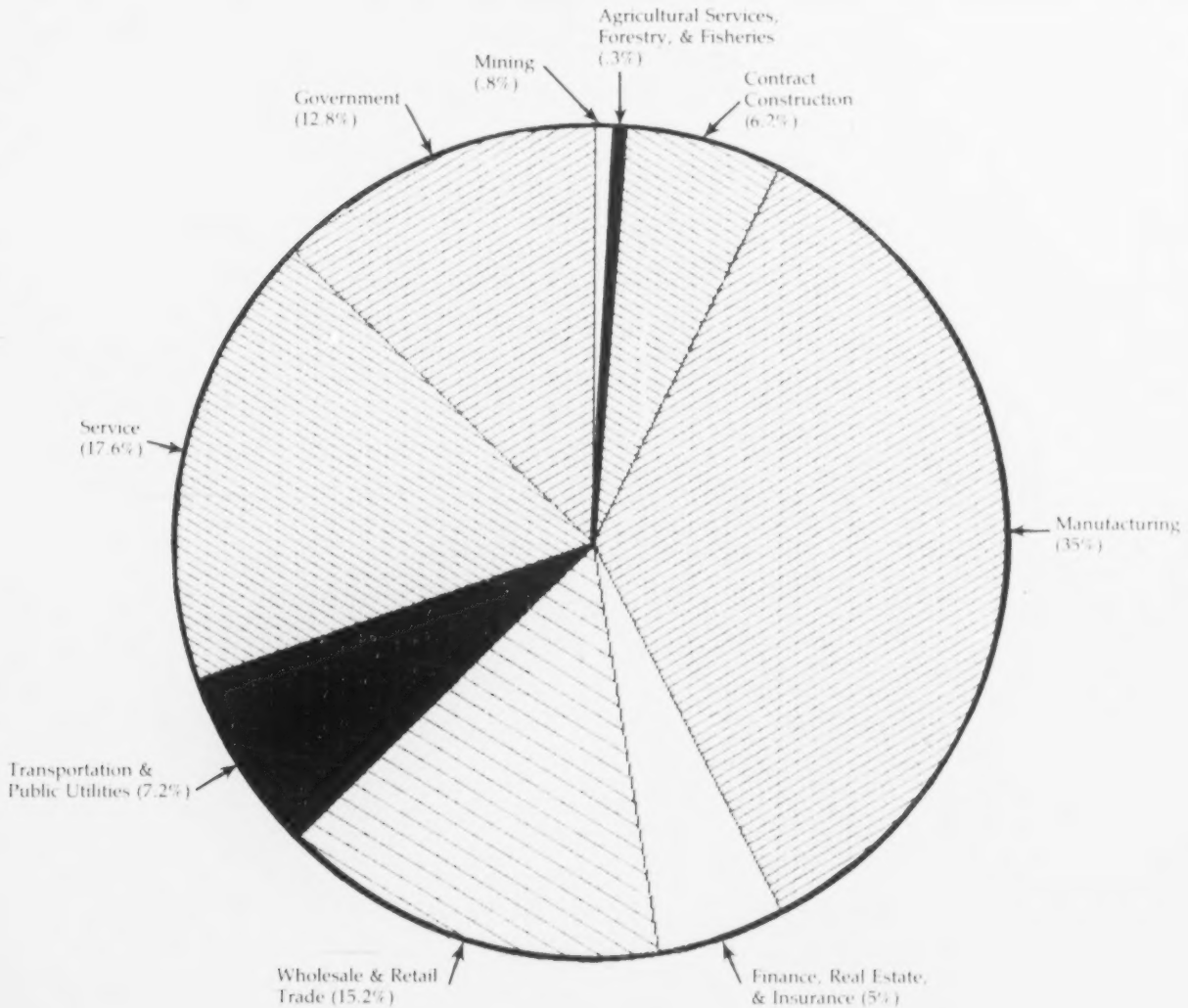
One consequence of the shift in employment from manufacturing to nonmanufacturing is the possible drag such a shift may place on the growth in earnings for the State. In general, earnings per employee tend to be higher in the manufacturing sector than in the nonmanufacturing sector. Between 1977 and 1986, nominal earnings per employee in the manufacturing and nonmanufacturing sectors averaged $24,188 and $16,612 respectively. Based on this simple analysis, which ignores the composition of employment growth, Indiana must gain almost 1.5 nonmanufacturing jobs for every one lost in manufacturing to avoid a decline in real earnings. In 1986, this ratio was exceeded, resulting in an increase in real earnings. Whether Indiana can maintain a rate of growth in nonmanufacturing employment sufficient to ensure growth in real earnings remains to be seen.

Figure 13
Real Earnings from Employment in Indiana, 1977-1986
(in Billions of 1967 Dollars)



Source: U.S. Bureau of Economic Analysis.
Note: 1986 estimates are based on information covering the first three quarters of the year.

Figure 14
Distribution of Indiana Non-farm Earnings
by Major Industry Type, 1986



Source: U.S. Bureau of Economic Analysis.

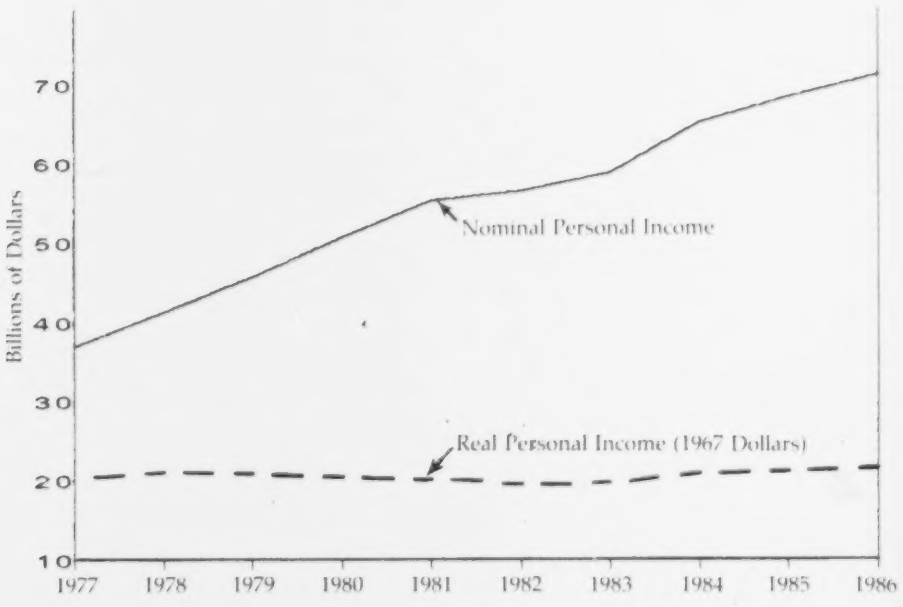
Nominal and real personal income in the State rose during 1986 to an estimated $71.2 billion and $21.7 billion respectively (see **Table 8** and **Figure 15**). Since 1977, nominal personal income in Indiana has increased by almost 93%, but in real terms the increase has been 7%. By comparison, nominal and real personal income in the U.S. have increased by 116% and 19% respectively over the same period.

Table 8
Personal Income in Indiana, 1977-1986

Year	Nominal Personal Income ($ Bil.)	Percent Change	Per Capita Personal Income (Nom. $)	Percent Change	Real Personal Income ($ Bil.)	Percent Change	Per Capita Personal Income (Real $)	Percent Change
1977	36.973	—	6,910	—	20.365	—	3,806	—
1978	41.295	11.6	7,722	11.7	21.132	3.7	3,952	3.8
1979	45.733	10.7	8,469	9.7	21.031	-0.5	3,894	-1.5
1980	50.712	10.9	9,298	9.8	20.548	-2.3	3,767	-3.2
1981	55.324	9.0	10,093	8.5	20.313	-1.1	3,706	-1.6
1982	56.488	2.1	10,294	2.0	19.538	-3.8	3,560	-3.9
1983	58.925	4.3	10,754	4.5	19.748	1.0	3,604	1.2
1984	65.233	10.7	11,877	10.4	20.969	6.2	3,818	5.9
1985	68.443	4.9	12,446	4.8	21.248	1.3	3,864	1.2
1986	71.245	4.1	12,747	2.4	21.704	2.2	3,883	0.5

Source: Bureau of Economic Analysis, U.S. Department of Commerce.
Note: Real dollars are defined as 1967 dollars.

Figure 15
Total Nominal and Real Personal Income in Indiana, 1977-1986
(in Billions of Dollars)



Source: U.S. Bureau of Economic Analysis.
Note: 1986 estimates are based on information covering the first three quarters of the year.

Figure 16
Indiana Total Personal Income as a Percentage of Total U.S. Personal Income, 1977-1986

Source: U.S. Bureau of Economic Analysis.

This disparity in growth between the State and the nation has resulted in a decline in Indiana's share of the U.S. total, from 2.3% in 1977 to just over 2% in 1986 (see **Figure 16**). In 1977, Indiana ranked thirteenth among the fifty states plus the District of Columbia in terms of personal income. The State's ranking fell to fourteenth in 1986.[3] In addition to earnings, personal income includes such items as income derived from interest, dividends, rent, and transfer payments.

In 1977, Indiana ranked thirteenth among the fifty states plus the District of Columbia in terms of personal income. The State's ranking fell to fourteenth in 1986.

In per capita terms, nominal personal income in the State increased an estimated 2.4% during 1986 to approximately $12,747. In real terms, there was only a slight increase, to $3,883. Real per capita personal income has increased by approximately 2% since 1977, while in nominal terms the increase was 84%. Nominal per capita personal income in the U.S. was approximately $7400 in 1977 and approximately $14,000 in 1986.

3. *Survey of Current Business Table 1.9*, U.S. Department of Commerce Bureau of Economic Analysis, and *Current Population Reports*, U.S. Department of Commerce Bureau of the Census.

Retail Trade

The total value of sales for the retail trade industry in Indiana was an estimated $3.2 billion, an increase of 6% over 1985 (see **Table 9** and **Figure 17**). In real terms, an estimated $976 million was spent on consumer goods purchased from Hoosier retailers. Although nominal retail sales have increased by almost 46% since 1977, sales adjusted for inflation have actually declined by 13% during the same period.

Table 9
Retail Sales in Indiana, 1977-1986

Year	*Nominal Sales (Current Dollars)*	*Percent Change*	*Real Sales (1967 Dollars)*	*Percent Change*
1978	2.195		1.123	
1979	2.359	7.5	1.085	-3.4
1980	2.300	-2.5	0.932	-14.1
1981	2.525	9.8	0.927	-0.5
1982	2.485	-1.6	0.860	-7.2
1983	2.627	5.7	0.880	2.3
1984	3.049	16.1	0.980	11.4
1985	3.010	-1.3	0.934	-4.7
1986	3.203	6.4	0.976	4.5

Source: *Current Business Reports, Revised Monthly Retail Sales and Inventories*, Bureau of the Census, U.S. Department of Commerce.

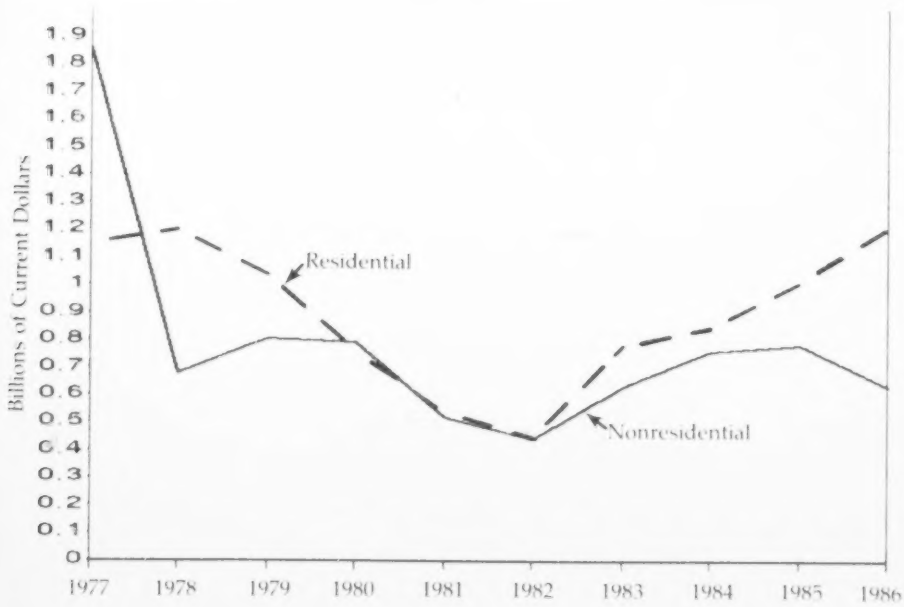
Construction Activity

The dollar value of residential building permits issued in the State increased 19% in 1986, to a total of $12 billion. At the same time, the dollar value of nonresidential building permits totaled $636 million, a decline of 19% from 1985. As **Figure 18** shows, nonresidential construction activity as measured by the value of permits issued has not recovered from the last downturn.

Figure 17
Nominal and Real Retail Sales in Indiana, 1978-1986
(in Billions of Dollars)

Source: U.S. Bureau of the Census.

Figure 18
Value of Residential and Nonresidential Building Permits Issued in Indiana, 1977-1986
(in Billions of Current Dollars)



Source: U.S. Bureau of the Census.
Note: 1986 estimates are based on information from January through November.

The Year in Review

1986 marked the fourth year of generalized economic expasion in Indiana. Though the growth was unbalanced, substantial gains were made in employment.

Accompanying this rise was an increase in employment earnings of more than 3% (after adjusting for inflation). Personal income, which is a more comprehensive measure of income, rose slightly more than 2% in 1986, after adjusting for inflation. Spurred on by lower interest rates and rising incomes, the market for new homes expanded. Spending for residential construction increased by almost 13%. At the same time, spending for consumer goods at the retail level rose by 6%.

Despite these healthy gains, certain aspects of the State's economic performance during the past year remain disturbing. In particular, manufacturing employment continued to follow a downward trend.

With nonmanufacturing employment increasing by approximately 90,000, Indiana experienced an increase in real earnings from employment. However, most of the growth in nonmanufacturing employment during the past decade has occurred in the wholesale trade, retail trade, and service industries. Over the course of the same period, earnings per employee in these industries have been on average only 58% of the average earnings per employee in the manufacturing sector.

To maintain a given level of personal income, the State must add 1.7 new jobs in these three industries for every one lost in manufacturing. In the past this requirement appears to have put a drag on personal income growth, and Indiana has fallen behind the U.S. as a whole.

Unless the State can continue to increase nonmanufacturing employment at a rate comparable to 1986, or unless the decline in manufacturing employment is arrested, this trend is likely to continue. □

Indiana Outlook: Recent Changes

The Business Outlook Panel has made two corrections to its 1987 forecast, which appeared in the December 1986 outlook issue of the *Indiana Business Review*. The changes are in the area of net exports.

The revised table, with the latest 1986 figures, appears below.

1987 Forecast
(Percentage Changes from Previous Year Unless Otherwise Noted)

	(Estimated) Year 1986	*(Forecast) Year 1987*
Gross National Product ($82)	2.5%	2.1%
Disposable personal income ($82)	2.9%	3.1%
Personal consumption expenditures ($82)	4.1%	3.9%
Investment ($82)	1.6%	0.5%
Nonresidential	1.1%	0.5%
Residential	9.5%	5%
Inventory ($ current in billions)	20	35
Net exports ($ current in billions)	105	86
Exports	372	415
Imports	478	501
Government purchases ($82)	3.6%	3.4%
Federal defense	6.3%	3.0%
Federal civilian	6.4%	2.5%
State and local	4.2%	3.6%
	Other Items	
	Year 1986	*Year 1987*
Dow Jones Industrials	1800	1900
Mortgage rate	10%	9.5%
AAA long-term bond rate	9.0%	9.0%
Prime rate	8.3%	7.5%
Inflation rate (Consumer Price Index)	1.9%	3.5%
Housing starts (millions of units)	1.9	1.7
Automobile sales (millions of units)	11.4	9.5
Unemployment rate	6.9%	6.7%
Savings rate	4.0%	3.5%

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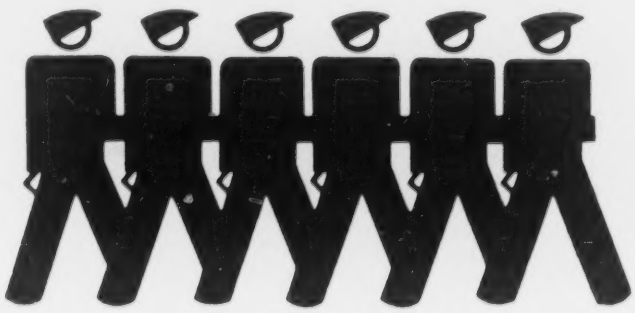
Robert Kirk — **Indiana Population Shifts by Age Group, 1980-85**

Jerome N. McKibben II — **Job Gains versus Wage Gains—Indiana's Deindustrialization Continues**

Bob J. Lain — **Indiana 1986: Corrections and Revisions**



Indiana Population Shifts by Age Group, 1980-85

In this issue...

Some folks just won't stay in their own yards. At a time when evangelists compete with sinners, some academic researchers must prove their versatility as well. For example, these pages have economist Robert Kirk offering us a demographic analysis of the changing age composition of the Indiana population. Then demographer Jerry McKibben crosses the line and provides a comparison of the changes in employment and payroll in our Hoosier state. As with the TV sacred soaps, we learn something from transgressions.

Not content with an entire issue to himself in April, Bob Lain is back again with a correction and an addendum to his article. After readers in Bartholomew and Wayne counties expressed their displeasure, we discovered that some of the data in the April *IBR* were erroneously reported to us. Now Bob sets that straight and even provides the latest updates of those data from the Indiana Employment Security Division (which is in the process of changing its name as smoothly as it changes its data).

M.J.M.

Robert Kirk

The author is a professor of economics at Indiana University-Purdue University at Indianapolis.

Recent issues of the *Indiana Business Review* have focused on changes in Indiana's population.[1] This article continues that focus by examining changes in Indiana population by age groups (cohorts) during the period 1980-85, a period of two years of recession followed by three years of recovery. Comparisons are made with other states in the region as well as with other regions.

The study of population change by age groups is important for persons seeking to:

- Identify growing markets;
- Develop and market new products;
- Make housing forecasts; and
- Plan for public and private facilities—such as schools.

In fact, terms have been coined—such as *yuppies* (young, upwardly mobile, urban professionals) and *dinks* (double income, no children households)—to give attention to specific age groups.

1. See *Indiana Business Review*, October 1986 and November 1986, for articles on migration patterns, population projections, and headship rates.

The Method Used

The method used to analyze population change is shift-share analysis.[2] Change in Indiana population by age group is considered as comprising three components:

1. ***The national all age-groups growth element***—change that is associated with the growth rate of the nation;
2. ***The adjustment for age-group mix***—change that is associated with the difference between the age group mix of Indiana and that of the nation; and
3. ***The adjustment for state competitive performance***—change that is associated with the difference between the growth rate of age group i, where i equals a given age group, in Indiana and that of the nation.

An example will illustrate this method (see the box for further detail).[3] Suppose

2. For a discussion of shift-share analysis, see Francisco J. Arcelus, "An Extension of Shift-Share Analysis," *Growth and Change*, January 1984, pp. 3-8.

3. The estimates of population by age group used 1980 Census data as a base for age groups by state. The estimates take into account change in population arising from births, deaths, and net migration from April 1, 1980. Migration components are derived from changes in school enrollment and use state age-specific migration experience. Estimates for population 65 and over are based on state Medicare records.

The Formulas for Share-Shift Analysis

Change in population for a given age group i in a given state j (d_{ij}) is given by:

1. Change at all age-group all-state rate = $b_{ij}r_{oo}$;
2. Change at age-group all-state rate = $b_{ij}r_{io}$; and
3. Change at age-group state rate = $b_{ij}r_{ij}$, where b_{ij} is the number of people in the ith age group and the jth state in 1980.

The three components of change mentioned above can be represented by:

1. National all-age group growth element, $g_{ij} = b_{ij}r_{oo}$;
2. Adjustment for age-group mix, $k_{ij} = b_{ij}(r_{io}-b_{ij}r_{oo})$;
3. Adjustment for state competitive share, $c_{ij} = b_{ij}(r_{ij}-b_{ij}r_{io})$.

The above can be rewritten in a generalized form for the actual change, d_{ij}:

$$d_{ij} = b_{ij}[(r_{oo}) + (r_{io}-r_{oo}) + (r_{ij}-r_{io})].$$

the actual change for the 35-44 years age group over the period was 2 persons, the national growth effect was 9, the age-group mix effect was 1, and the state competitive effect was -8:

(2) = (9) + (1) + (-8)

Or, to translate the formula into words, the 35-44 age group would have increased by 9 persons if the age group had grown at the national population growth rate. However, two types of adjustments occurred: an age-group effect and a state competitive effect. The adjustment for the age-group effect increased population by one, which meant that the national percentage change for the age group was greater than the national percentage change across all age groups. On the other hand, the adjustment for the state competitive effect decreased population by eight, which meant that the growth rate for the age group in the particular state was less than the growth rate for the same age group in all states.

In summary, the actual change equals the hypothetical change at the national, all-age-group population growth rate, adjusted for both the specific age-group and the state competitive effects.

Table 1
Change in National Population, 1980-85

Age group	*Change (in percent)*	
0- 4	10.3	(echo effect)
5-17	- 5.1	(baby bust)
18-24	- 5.1	(baby bust)
25-34	13.3	(baby boomers)
35-44	23.9	(baby boomers)
45-54	- 0.9	(depression babies)
55-64	2.9	(increased longevity)
65 and over	11.7	(increased longevity)
all age groups	**5.4**	

Source: U.S. Department of Commerce, Bureau of the Census, *State Population and Household Estimates to 1985, with Age and Components of Change*, Series P-25, No. 998.

The National Picture

Table 1 lists the 1980-85 change in population for the nation across all age groups and by specific age groups. The terms to the right of each percent change have been used to characterize the age group:

- The ***echo effect*** refers to the large number of females born during the baby boom years who are now in the childbearing years.
- The ***baby bust*** refers to the drop in the birth rate beginning around 1965.
- The ***baby boomers*** refer to the large number of babies born between 1946 and 1964.
- The ***depression babies*** refer to the small number of babies born during the thirties.

The Indiana Experience

Table 2 provides the results for applying shift-share analysis to Indiana's population change for the period 1980-85, with 1985 being the most recent year for which data are available. As Table 2 indicates, Indiana population over the period 1980-85 increased by 9,000. If the state population had increased at the national rate (5.4%), the population would have increased by 296,000.

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Table 2
Components of Indiana's Population Change by Age Group, 1980-85 (in thousands)

Age Group	*Actual Change*	*National Effect*	*Age-group Effect*	*Competitive Effect*
0- 4	16	22.6	20.7	-59.3
5-17	-97	64.6	-126.1	-35.5
18-24	-70	39.7	- 77.2	-32.5
25-34	72	47.0	69.3	-44.3
35-44	93	33.1	113.7	-53.8
45-54	-31	29.6	- 34.7	-25.9
55-64	- 3	27.6	- 12.7	-17.9
65 and over	60	31.5	36.8	- 8.3
Total	**9**	**296**	**- 10**	**-277**

Source: Data source same as Table 1; author's calculations.

The age-group effect indicates that the mix of age groups in the state is oriented slightly toward the younger age groups. For example, the state has a slightly greater percentage of its population in the age groups 5-17 and 18-24 than does the nation. Because these age groups had a negative growth rate during the period, the total age-group effect was slightly negative. Thus, the national growth effect was adjusted downward slightly.

The primary adjustment downward was due to the competitive effect. Table 2 indicates that, for each age group, Indiana's growth rate was less than the national one. Therefore, Indiana's share of the national age group declined. The decline was the smallest for people 65 and over, which is not surprising. This is the age group least affected by the labor market changes associated with the 1980-82 recessions.

In summary, the combined effects of the age-group mix and the state competitive effect are to offset most of the national effect, resulting in a net increase of 9,000.

The Great Lakes Region

Indiana's experience was not unique among states in the Great Lakes region, which also includes Illinois, Michigan, Ohio, and Wisconsin. To compare states, **Table 3** shows the competitive effect by age group.

Focusing on those age groups most sensitive to labor market conditions (18-64 years), Table 3 indicates that Wisconsin had the best performance in minimizing its loss of share of national population in the 18-64 age groups. Indiana and Illinois had similar performances, followed by Ohio and Michigan. Michigan experienced the greatest loss of share. Loss of share occurred across all age groups in each state, with the exception of the age group 65 and over in Michigan.

The aggregate loss (summed across states by age group) was greatest in the 35-44 age group.

Regional Comparisons

Table 3 covers the states that constitute the Great Lakes region only. **Table 4** provides information by region on the same labor market sensitive groups as Table 3.

The West South Central region (Arkansas, Louisiana, Oklahoma, and Texas) increased its share of the 18-64 age group by the greatest proportion (6.5), while the Great Lakes region decreased its share by the greatest proportion (-5.9). The Great Lakes region had its greatest share losses in the 35-44 and 45-54 age groups. On the other hand, the Mountain region (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada) had the greatest share gains in these two age groups.

It must be emphasized that the period analyzed covered the recession period 1980-82 and the first three years of recovery, 1983-85. Since 1985 oil prices have

Table 3
Competitive Effect, in Percent,
by Selected Age Group and by State

	Age Group						*Total*
State	*18-24*	*25-34*	*35-44*	*45-54*	*55-64*	*65 +*	*18-64*
Ohio	-6.1	-6.9	-8.9	-6.7	-3.5	-0.8	-6.5
INDIANA	**-4.4**	**-5.1**	**-8.8**	**-4.7**	**-3.5**	**-1.4**	**-5.3**
Illinois	-4.8	-4.3	-8.0	-4.6	-4.2	-3.3	-5.1
Michigan	-6.8	-7.7	-8.6	-8.5	-5.2	0.4	-7.4
Wisconsin	-3.6	-3.2	-4.4	-3.7	-4.5	-2.3	-3.8

Source: Data source same as Table 1; author's calculations.

Table 4
Competitive Effect, in Percent,
by Age Group and by Region

	Age Group						*Total*
Region	*18-24*	*25-34*	*35-44*	*45-54*	*55-64*	*65 +*	*18-64*
New England	0.5	-3.1	1.0	-4.4	-2.9	-1.9	-1.8
MidAtlantic	1.0	-6.3	-5.5	-5.7	-2.2	-3.9	-3.8
GREAT LAKES	**-5.4**	**-5.7**	**-8.0**	**-6.0**	**-4.1**	**-1.6**	**-5.9**
West North Central	-5.3	-1.9	-5.2	-3.2	-4.5	-4.8	-3.9
South Atlantic	5.2	2.1	3.5	6.0	5.8	5.0	4.3
East South Central	0.9	-2.4	-4.8	0.7	-1.7	-2.1	-1.5
West South Central	4.0	9.6	6.9	6.1	4.6	-1.2	6.5
Mountain	0.9	7.6	9.4	7.8	3.5	9.7	5.8
Pacific	-1.1	4.5	8.2	4.4	1.5	3.9	3.5

Source: Data source same as Table 1; author's calculations.

Table 5
Competitive Effect, in Percent,
by Selected States and by Age Group

	Age Group							
State	*0-4*	*5-17*	*18-24*	*25-34*	*35-44*	*45-54*	*55-64*	*65 +*
Arizona	15.8	9.8	7.3	13.7	13.0	12.0	10.3	16.0
Florida	20.7	5.1	12.6	12.9	11.5	12.9	14.0	6.9

Source: Data source same as Table 1; author's calculations.

Job Gains versus Wage Gains—Indiana's Deindustrialization Continues

Jerome N. McKibben II

The author is a research demographer for the Indiana Business Research Center.

The current trend toward deindustrialization in the United States has created far-reaching economic changes. This trend started in the late 1960s, accelerated in the 1970s, and has become chronic in the 1980s. The decline of heavy and medium manufacturing has had a profound effect on the demographic and economic composition of the United States.

Nowhere have the effects of deindustrialization been more profound than in the Great Lakes states. Because manufacturing is the foundation of the area's economy, the effects were felt here first and the results have been the most severe.

Nowhere have the effects of deindustrialization been more profound than in the Great Lakes states.[1] Because manufacturing is the foundation of the area's economy, the effects were felt here first and the results have been the most severe.[2]

Rise of the Service Sector

As employment in manufacturing dropped, the service sector of the economy continued to grow at a rapid rate.[3] Workers leaving industrial jobs as well as workers entering the work force were encouraged to look toward the service sector for employment that offered higher wages and greater job security.[4]

However, there was mounting evidence that the new service sector jobs were not paying as well as the old manufacturing ones. Further, the potential for relative salary increase compared to manufacturing was substantially lower.[5]

While some service-sector employment had potential for high personal earnings, most did not. Most of the high-paying jobs were in high-visibility service areas. Positions in "producer services"—legal, technological, and financial experts, for example—have a high profile in our society, but they constitute a very small proportion of the service jobs in the economy.[6]

The failure of comparable replacement jobs for former manufacturing employees has led to a decline in the economic well-being of a substantially large segment of the labor force.

Not having the expertise to gain employment in producer services, most displaced industrial workers were (and presently are) forced to seek employment in the lower paying "personal service" sector. This failure of comparable replacement jobs for former manufacturing employees has led to a decline in the economic well-being of a substantially large segment of the labor force.

1. Indiana, Illinois, Michigan, Ohio, and Wisconsin.

2. See Barry Bluestone and Bennett Harrison, *The Deindustrialization of America* (New York: Basic Books, 1982); Wayne Bartholomew, Paul A. Joray, and Paul Kochanowski, "The Decline of Manufacturing in the Midwest: A Short-Run or Long-Run Problem?" *Indiana Business Review* 61 (January-February 1986): 7-12.

3. Barry Bluestone, "Is Deindustrialization a Myth? Capital Mobility vs. Absorptive Capacity in the U.S. Economy," *Annals of the American Academy of Political and Social Science* 475 (September 1984): 39-51.

4. Candee Harris, "The Magnitude of Job Loss from Plant Closings and the Generation of Replacement Jobs: Some Recent Evidence," *Annals of the American Academy of Political and Social Science* 475 (September 1984): 15-27.

5. Bluestone (note 3); T. J. Leary, "Deindustrialization, Plant Closing Laws, and the States," *State Government* 58 (Fall 1985): 113-18.

6. J. I. Nelson and Jon Lorene, "Employment in Service Activities and Inequality in Metropolitan Areas," *Urban Affairs Quarterly* 21 (September 1985): 106-25.

dropped, which has had a negative impact on oil-producing states, particularly in the West South Central region (Oklahoma, Texas, and Louisiana have been particularly hard hit).[4]

We see and hear much about the appeal of Arizona and Florida for the 65-and-over age group. However, as **Table 5** indicates, these states have experienced gains in share across the age-group spectrum.

The differential between Arizona and Florida for people 65 and over may reflect the idea that Florida's proportion consists more of "snow birds" (temporary residents) than does Arizona's. Certainly, additional elementary teachers will be needed in Arizona and Florida.

The Significance of This Study

Information about population change is useful to many people for many purposes. The analysis has gone beyond the aggregate population figures to examine population change by age group. This type of analysis is increasingly important for business firms and government agencies that are interested in designing products and programs to target specific age groups.

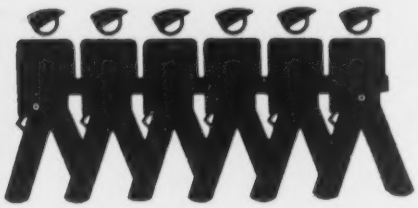
This analysis has examined the extent to which a state or region has gained or lost share of national population by age group. Indiana and its multistate region have been highlighted.

Indiana has lost share in all age groups. Some of the persons who left during 1980-85 have established permanent residence elsewhere. Improved economic conditions will cause others to return.

All states in the Great Lakes region lost share in the 18-64 age groups. Indiana's loss was intermediate compared to the other states.

Using history as a basis for prediction, we can expect that people will continue to redistribute themselves over space.

4. See Alvin J. Sanders and Larry Long, "New Sunbelt Migration Patterns," *American Demographics*, January 1987, pp. 38-41.



This downward mobility of a significant sector of workers is causing a polarization of the work force. The number of jobs paying more than $22,000 a year is declining; the number of jobs with salaries less than $12,000 a year is increasing.[7] The end result is a net decline of middle class families with only one wage earner and an increased need for two paychecks to maintain a family at middle class standards.

The number of jobs paying more than $22,000 a year is declining; the number of jobs with salaries less than $12,000 a year is increasing. The end result is a net decline of middle class families with only one wage earner and an increased need for two paychecks to maintain a family at middle class standards.

In this article we will examine the relationship between the net increase of employment in Indiana and the net increase in the median weekly wage. Using data provided by the Indiana Employment Security Division, we will compare the ratio of the number of jobs created to the number of jobs lost in Indiana for the period June 1985 to June 1986. We will look at the question, "Is this a state-wide trend or just a local phenomenon?" Further, we will try to establish how extensive the problem is and to ascertain the magnitude of Indiana's economic growth caused by employment gain.

Deindustrialization in Indiana

Deindustrialization was and is a factor of critical importance for Indiana. Because manufacturing is the bedrock of its economy, any decline in manufacturing performance was and is sure to have dire consequences. Corresponding to trends in employment for the United States, as manufacturing employment declined, the number of people employed in the service sector increased. This trend was accelerated by the fact that much of Indiana's industrial output was being sent to other Great Lakes states that were also being deindustrialized.[8]

After the 1980-1982 recession was over, many of the displaced manufacturing workers found employment either in the service sector or in former industrial jobs now being contracted out at lower salaries. However, even as the number of people employed in Indiana rose and the unemployment rate dropped from double-digit levels, the standard of living was eroding.

After Fort Wayne's International Harvester plant closed, the average salaries of the displaced factory employees who found jobs elsewhere was between $4,900 and $7,100 per year lower than previously.[9] When 150 former employees of the Allis-Chalmers LaPorte plant acquired new employment, their average wage was $7.00 per hour, an average decline in salary of $6.00 an hour.[10]

The lack of available new jobs was exacerbated by the lack of U.S. Defense Department spending in Indiana. Indiana ranked thirty-third in the nation in defense expenditures, and the state per capita share was 36% lower than the national average.[11]

Job Gain vs. Wage Gain

Using data from the Indiana Employment Security Division, we focused on employment and wage changes for eighteen manufacturing and six nonmanufacturing classifications from June 1985 through June 1986.

The change in weekly payroll for the state was calculated for the same period by multiplying the net gain or loss in each classification by the average weekly wage as of June 1986 for that job category. The gained and lost wage values were summed and put into ratio form (the number gained per unit lost). The values for net job gain or loss were calculated in the same way.

The results show that the occupations exhibiting the greatest decline in employment were primary metals (10,700) and transportation equipment (3,000). Conversely, employment gains were found in wholesale/retail trade (39,300) and personal service/miscellaneous (23,900). Overall, in the state of Indiana, an average 4.61 jobs were created for every job lost (see **Table 1**[12]).

The job classifications with increased employment paid an average weekly wage of $317.77. These jobs are creating $2.28 for every $1 lost. However, job categories with lost employment had an average weekly wage of $471.19. Therefore, to make up the difference, an increase of 48% would have to occur in occupations gaining employment.

When the manufacturing sector is divided into durable and nondurable goods, the rate of job loss for durable goods becomes more apparent. Employment in the nondurable sections remained stable.

In the occupational category of nonmanufacturing, construction is traditionally a high-paying sector. Construction employment was not included as part of the "service" economy and accounts for 14.7% of the sector's job gain. Yet it makes up 29.5% of nonmanufacturing's gained weekly payroll. Thanks to con-

7. See Leary (note 5).

8. See Bartholomew, Joray, and Kochanowski (note 2).

9. See Patrick Ashton and Peter Iadicola, "The Differential Impact of a Plant Closing on the Reemployment and Income Patterns of Displaced Blue- and White-Collar Employees," Paper presented at the annual meeting of the North Central Sociological Association, Toledo, Ohio, 1986.

10. Bill Richards, "They Have Jobs Again in LaPorte, But Work Doesn't Pay So Well," *Wall Street Journal*, March 12, 1986, pp. 1, 26.

11. "Defense Spending Tilts to South, West," *Northeast-Midwest Congressional Coalition Report* 2 (1985): 1, 6.

12. June 1986 employment data have since been revised by the Indiana Employment Security Division. Although there are minor differences in some employment categories, the overall differences and ratios are within ±5% of the stated results. Thus, the trends outlined in this article are still occurring.

Table 1
Job Gain and Wage Gain in Indiana,
June 1985-June 1986
(excludes government workers)

Employment Category		*Jobs Gained or Lost*	*Average Weekly Wages*	*Lost Weekly Wages*	*Gained Weekly Wages*
MANUFACTURING					
Durable Goods					
Lumber and wood products	+	800	$310.50		$ 248,400
Furniture	+	400	307.93		123,172
Stone, clay, glass	-	200	451.78	$ 90,356	
Primary metals	-	10,700	570.06	6,099,642	
Fabricated metals	-	200	400.61	80,122	
Nonelectrical machinery	-	1,200	485.74	582,888	
Electrical machinery	-	600	456.14	273,684	
Transportation equipment	-	3,000	536.68	1,610,040	
Instruments	-	300	388.02	116,406	
Miscellaneous manufacturing	+	46	330.37		132,148
Nondurable Goods					
Food	-	300	391.13	117,339	
Textiles	-	300	228.15	68,445	
Paper	-	400	409.34	168,736	
Printing	+	700	359.75		251,825
Chemicals	-	300	529.37	158,881	
Petroleum-related	-	500	656.97	328,485	
Rubber/plastics	+	800	354.24		283,392
Other nondurables	+	100	224.16		
NONMANUFACTURING					
Mining	-	1,000	621.60	621,600	
Construction	+	12,400	559.12		6,933,088
Trans. communications, pub. util.	+	3,900	360.99		1,407,869
Wholesale and retail trade	+	39,300	212.10		8,335,530
Finance, insurance, real estate	+	6,000	253.45		1,520,700
Service, miscellaneous	+	23,900	222.92		5,327,788

Jobs Gained, June 1985 to June 1986	87,700
Jobs Lost, June 1985 to June 1986	19,000
Ratio, Gain to Lost	4.61 to 1
Gained Weekly Wages, June 1985 to June 1986	$24,586,328
Lost Weekly Wages, June 1985 to June 1986	$10,311,554
Ratio, Gain to Lost	$2.38 to $1.00
Average Weekly Wage for Job Lost Category	$471.19
Average Weekly Wage for Job Gain Category	$317.77

Source: Indiana Employment Security Division.

struction's high average weekly salary ($100 above the next highest weekly wage of any gainer), the ratio of wage gained to lost is kept above $2.00 to $1.00.

The Outlook

Unfortunately, the outlook for improved wage gain compared to job gains is not very promising. There is little indication that employment in the manufacturing sector will increase in the future. Even if existing trends in heavy and medium industry leaving the Unites States are stopped or reversed, the prospect of increased automation will limit employment gains.[13]

Furthermore, many of the new jobs being created in the personal service sectors require little or no post-secondary schooling.[14] This situation is similar to the period when high entry-level employment opportunities existed in the manufacturing areas.

The increasing number of women in the work force plays a role in the current wage-gain-to-job-gain discrepancy. As long as the new jobs which women hold draw a salary 30% lower than men's, the gap will remain because the number of women in the labor force is growing faster than the number of men.

The relative wage gain compared to the number of jobs gained in Indiana is changing the economic structure of the state. What was once an economy of high-paying manufacturing jobs is being transformed into one of relatively low-paying service employment. This trend has a profound effect on the changes in the level of personal and family income, spending habits, household formations, and fertility levels.

If this trend continues, we can expect to see a profound reduction in standard of living. Two incomes from service jobs will be required to provide the same lifestyle that one manufacturing job allowed. □

13. See Russell Rumberger, "High Technology and Job Loss," *Technology and Society* 6 (Summer 1984): 263-84.

14. Russell Rumberger and Henry Levin, "Forecasting the Impact of New Technologies on the Future Job Market," *Technological Forecasting and Social Change* 27 (Fall 1985): 399-417.

Indiana 1986: Corrections and Revisions

Bob J. Lain

The author is a research associate for the Indiana Business Research Center.

This article serves to correct some inaccuracies that appeared in "Indiana 1986: The Economic Year in Perspective" (*IBR*, April 1987). The published data from which Tables 2 and 3 (pp. 4 and 6) were constructed contained errors affecting Bartholomew and Wayne Counties. We are indebted to the Indiana Employment Security Division for bringing this matter to our attention and for providing the corrected information.

The tables in question have been amended. In addition, revisions to the county level employment data for 1986 became available following the publication of the original tables. These revisions have been incorporated into the amended tables in order to provide the most timely information available.

Readers of the original article will notice that the employment picture in a great many counties has been altered by these revisions. Originally, we reported that 15 Indiana counties experienced a decline in employment during 1986. The revised data reveal that declines occurred in 35 counties. The average percent change in employment for all of the counties declined from the 2.4% reported in April to 0.9%. The unemployment rate on a county-by-county basis was not significantly affected by the revisions.

Finally, April's Table 7 (p. 13) contains two errors for 1977. Real earnings for the contract construction industry were $942.7 million, not $9,758.4 million as reported. Similarly, real earnings in the manufacturing sector were $6,671.2 million during 1977, not $3,675.6 million. April's Figure 13 (p. 14) used the correct data. □

Figure 3—Revised Version
Percent Growth in Indiana Employment by County, 1985-1986

Source: Indiana Employment Security Division.
County-by-county average = 9%

Table 2—Revised Version
Indiana Employment and Change in Employment by County, 1985 to 1986

County	Employment 1986 Number	Rank	% Change 85-86 %	Rank	County	Employment 1986 Number	Rank	% Change 85-86 %	Rank
Adams	13,706	46	-2.3	75	Lawrence	17,438	36	1.4	41
Allen	150,400	3	6.0	8	Madison	57,467	8	1.0	47
Bartholomew	29,017	23	0.4	54	Marion	401,917	1	4.7	14
Benton	4,084	88	-6.5	90	Marshall	20,638	28	3.8	21
Blackford	6,752	81	-6.8	91	Martin	4,954	86	3.4	23
Boone	19,400	31	1.8	38	Miami	15,113	44	2.3	33
Brown	5,335	85	-4.6	86	Monroe	55,225	10	2.9	29
Carroll	8,491	69	-1.7	68	Montgomery	17,417	37	1.2	45
Cass	18,129	34	-2.1	73	Morgan	25,342	24	-4.5	85
Clark	43,075	15	3.7	22	Newton	6,497	82	-7.5	92
Clay	9,648	65	-4.7	88	Noble	19,217	32	-0.6	61
Clinton	14,065	45	0.4	55	Ohio	2,110	92	4.8	13
Crawford	4,664	87	4.3	6	Orange	8,153	72	-3.1	78
Daviess	11,692	57	-1.1	64	Owen	8,146	73	12.8	1
Dearborn	16,481	39	-4.1	83	Parke	7,183	79	2.2	35
Decatur	10,560	60	0.8	50	Perry	7,425	77	-2.0	71
Dekalb	16,146	41	0.5	51	Pike	5,716	84	-4.7	87
Delaware	55,342	9	1.9	37	Porter	48,533	11	4.6	15
Dubois	19,729	29	5.3	11	Posey	11,983	55	-2.9	76
Elkhart	85,142	5	3.3	24	Pulaski	6,113	83	2.0	36
Fayette	10579	59	4.3	17	Putnam	12,760	50	7.8	3
Floyd	29,875	22	2.2	34	Randolph	12,213	53	1.2	44
Fountain	6,821	80	-3.4	80	Ripley	10,992	58	1.2	46
Franklin	8,729	68	5.3	10	Rush	7,602	75	-3.8	82
Fulton	9,344	66	-1.7	69	Scott	9,842	63	6.8	5
Gibson	15,381	43	0.2	57	Shelby	19,538	30	-2.0	72
Grant	33,725	19	-1.7	70	Spencer	9,227	67	-1.7	67
Greene	13,229	47	-0.7	62	Starke	8,188	71	5.8	9
Hamilton	47,400	12	7.5	4	Steuben	15,596	42	12.2	2
Hancock	22,092	25	0.5	53	St. Joseph	118,608	4	1.8	39
Harrison	12,827	49	-2.9	77	Sullivan	7,522	76	3.0	26
Hendricks	37,033	18	2.6	31	Switzerland	2,881	91	6.2	6
Henry	20,808	26	-0.6	60	Tippecanoe	61,992	7	1.3	42
Howard	38,467	17	-1.2	65	Tipton	7,368	78	0.8	49
Huntington	17,713	35	4.0	20	Union	3,065	90	4.1	18
Jackson	16,556	38	3.0	28	Vanderburgh	81,608	6	3.0	27
Jasper	11,823	56	-4.2	84	Vermillion	7,823	74	-0.7	63
Jay	8,368	70	-5.6	89	Vigo	46,425	14	1.3	43
Jefferson	12,283	52	3.3	25	Wabash	16,202	40	-0.4	58
Jennings	9,823	64	0.5	52	Warren	3,693	89	5.1	12
Johnson	41,458	16	2.8	30	Warrick	20,708	27	-2.2	74
Knox	18,246	33	-1.6	66	Washington	10,381	62	6.2	7
Kosciusko	32,492	20	4.0	19	Wayne	31,842	21	-0.5	59
Lagrange	12,069	54	-3.1	79	Wells	12,748	51	2.4	32
Lake	180,467	2	-3.6	81	White	10,496	61	0.3	56
LaPorte	46,575	13	1.7	40	Whitley	13,106	48	0.9	48

Source: *Labor Force Estimates* (monthly), Indiana Employment Security Division.

Table 3—Revised Version
Indiana Unemployment Rates and Changes In Unemployment Rates by County, 1985 to 1986

County	Unemployment 1986 Rate	Unemployment 1986 Rank	Change 85-86 Change	Change 85-86 Rank	County	Unemployment 1986 Rate	Unemployment 1986 Rank	Change 85-86 Change	Change 85-86 Rank
Adams	5.6	20	-1.3	43	Lawrence	8.8	71	-2.3	13
Allen	5.3	17	-1.0	61	Madison	6.4	36	-0.9	68
Bartholomew	6.8	42	-1.0	63	Marion	5.5	19	-1.2	50
Benton	8.2	66	0.3	88	Marshall	6.1	30	-1.3	39
Blackford	10.4	87	1.2	90	Martin	8.2	69	-1.1	54
Boone	3.0	1	-0.6	75	Miami	6.8	43	-1.0	60
Brown	6.0	28	-0.2	82	Monroe	3.9	5	-1.5	30
Carroll	5.8	23	-1.4	38	Montgomery	5.0	13	-1.2	48
Cass	7.3	53	-1.2	49	Morgan	6.7	40	-0.8	71
Clark	6.5	38	-1.8	22	Newton	7.5	57	-0.1	84
Clay	7.2	50	-0.3	81	Noble	6.4	35	-1.4	36
Clinton	7.3	51	-2.1	17	Ohio	8.8	70	-7.8	1
Crawford	9.8	81	-1.6	27	Orange	9.4	74	-0.9	66
Daviess	7.8	61	-1.5	31	Owen	7.1	48	-2.2	15
Dearborn	7.7	60	-1.5	32	Parke	7.5	56	-1.1	55
Decatur	6.3	34	-1.7	23	Perry	12.1	91	-3.4	3
Dekalb	5.1	16	-1.6	26	Pike	9.7	78	0.0	87
Delaware	7.0	47	-1.2	51	Porter	9.6	77	0.4	89
Dubois	4.7	9	-1.0	62	Posey	5.4	18	-0.8	69
Elkhart	4.9	12	-1.3	41	Pulaski	6.4	37	-1.4	35
Fayette	9.9	82	-4.5	2	Putnam	5.7	21	-2.4	12
Floyd	6.0	27	-1.2	53	Randolph	9.5	76	-0.1	83
Fountain	9.9	83	-2.6	10	Ripley	6.7	41	-2.0	18
Franklin	6.9	44	-2.9	6	Rush	7.6	58	-1.3	45
Fulton	5.7	22	-1.3	46	Scott	9.8	79	-1.0	58
Gibson	7.3	52	-1.5	28	Shelby	7.2	49	-2.7	9
Grant	8.1	64	-0.5	77	Spencer	8.2	65	-0.9	65
Greene	10.1	85	-1.1	57	Starke	10.6	88	-1.0	64
Hamilton	3.5	3	-0.5	79	Steuben	5.1	15	-1.3	40
Hancock	3.7	4	-0.8	70	St. Joseph	5.9	25	-1.5	33
Harrison	6.7	39	-1.0	59	Sullivan	11.6	90	-0.7	73
Hendricks	3.3	2	-0.5	78	Switzerland	10.1	86	-3.4	4
Henry	8.2	67	-1.3	42	Tippecanoe	3.9	6	-0.7	72
Howard	9.1	72	1.7	92	Tipton	7.4	54	1.4	91
Huntington	6.3	32	-0.9	67	Union	6.0	29	-2.1	16
Jackson	7.9	62	-3.0	5	Vanderburgh	5.9	24	-1.6	25
Jasper	9.8	80	0.0	86	Vermillion	9.4	75	-2.7	7
Jay	10.8	89	-1.3	47	Vigo	7.0	46	-1.5	34
Jefferson	9.1	73	-2.7	8	Wabash	5.9	26	-1.6	24
Jennings	7.0	45	-2.4	11	Warren	7.4	55	-2.2	14
Johnson	4.9	10	-0.6	76	Warrick	6.2	31	-0.1	85
Knox	7.6	59	-1.5	29	Washington	6.3	33	-1.9	19
Kosciusko	4.1	7	-1.1	56	Wayne	9.9	84	-0.4	80
Lagrange	5.1	14	-1.3	44	Wells	4.6	8	-1.8	21
Lake	12.2	92	-0.7	74	White	8.2	68	-1.9	20
LaPorte	8.1	63	-1.2	52	Whitley	4.9	11	-1.4	37

Source: *Labor Force Estimates* (monthly), Indiana Employment Security Division.

Figure 4—Revised Version
Unemployment Rates in Indiana by County, 1986

Source: Indiana Employment Security Division.
State average: 6.8%.
County-by-county average: 7.2%.
Note: The county-by-county average is the average for Indiana's 92 counties. The state average is the annual unemployment rate for the state.

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In this issue...

Population Shifts, Deindustrialization

For each age group, Indiana's growth rate was less than the national one.

The Great Lakes region had its greatest share losses in the 35-44 and 45-54 age groups.

Indiana has lost share in all age groups. Some of the persons who left during 1980-85 have established permanent residence elsewhere. Improved economic conditions will cause others to return.

When 150 former employees of the Allis-Chalmers LaPorte plant acquired new employment, their average wage was $7.00 per hour, an average decline in salary of $6.00 an hour.

The increasing number of women in the work force plays a role in the current wage-gain-to-job-gain discrepancy. As long as the new jobs which women hold draw a salary 30% lower than men's, the gap will remain because the number of women in the labor force is growing faster than the number of men.

Two incomes from service jobs will be required to provide the same life-style that one manufacturing job allowed.

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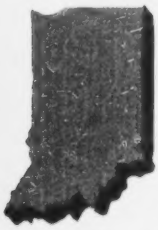

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The Rest of 1987: The Economy Slowly Plods On

In this issue...

In this midyear outlook for the economy, we reflect upon last fall's forecast, which was published in the December issue of the *Indiana Business Review*. Several faculty members in the Indiana University School of Business were asked to update their forecasts and to take a look at their predictions for 1987 in light of the events that occurred in the first four months of the year. The reviews do not update all sectors of the economy comprehensively and are based on only preliminary estimates of first-quarter GNP and its components. However, the authors focus on areas that either have undergone significant changes since our last forecast or, we believe, will be of special interest to *IBR* readers because they suggest broad and long-lasting trends in the economy.

Reports from several key areas around the state show how events within the last six months have affected economic trends within several of the state's regions.

Forecasters are often accused of only looking ahead and not checking on their past track record. However, in an analysis prepared by an MBA candidate at the Indiana University School of Business, we provide a retrospective look at the accuracy of the Outlook Panel's forecasts. Although the accuracy of the forecast has not been perfect, the record is remarkably good for a number of key variables, and it ranks favorably with other forecast efforts.

Bruce L. Jaffee

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Bruce L. Jaffee

Professor of Business Economics and Public Policy, Indiana University School of Business

Last fall we predicted that in 1987 the overall economy would experience sluggish, yet positive growth (December 1986 *IBR*). The first four months of this year have seen little to change this outlook; we forecast real Gross National Product (GNP) to grow about 2.3% in 1987. Nonetheless, the economy has several strong points and weak areas that were unexpected last fall.

We forecast real GNP to grow about 2.3% in 1987.

Stock Market. The big surprise in the early months of 1987 was the rapid and sustained run-up of stock market prices, even in the wake of reports of a moderate economic performance, increases in interest rates, and an acceleration in the rate of inflation. Economic fundamentals provide little justification for either the rapid run-up in stock prices early this year or their current high levels. We would not be surprised if there were a major decline in the market within the next few months.

Investment. As we predicted last fall, the weakest part of the economy has been the investment sector. Tax reform has not been kind to investment spending. Increases in interest rates and slow economic growth have combined to produce inflation-adjusted levels of both residential and nonresidential fixed investment which are lower than the levels achieved at the end of 1986. The one temporarily bright spot in the investment picture has been the sharp increase in inventory levels, but this increase cannot be sustained unless there is a corresponding increase in consumer or business spending. However, both these sectors remain weak, and the important automobile sector is especially depressed.

Inflation. The inflation rate has increased in the 5 to 6% range for the first four months of this year. Although this rate is considerably higher than the 1986 rate of inflation, it is in line with our forecast. We expect no further acceleration during the remainder of 1987. The increase in interest rates, especially short-term rates, was also expected. It reflects both a tightening Federal Reserve policy and the increase in the rate of inflation.

The inflation rate has increased in the 5 to 6% range for the first four months of this year. We expect no further acceleration during the remainder of 1987.

The Trade Deficit. Many policymakers have continued to show impatience over our trade deficit. While the deficit looms large, we still expect to see a modest improvement in 1987. A combination of cajolery, government policy, and changes in the relative value of world currencies should start to have a significant effect on the trade deficit.

Consumption Spending

R. Jeffery Green

Professor of Economics, Indiana University

In our December 1986 outlook for 1987, consumption expenditures in constant dollars were expected to grow about 3% through 1987, slightly slower than the expected growth in constant dollar disposable personal income.

Auto Sales

The biggest problem area was expected to be autos, where total unit sales in 1987 were expected to be about 9.5 million, down more than 2 million units from the 11.6 million level in 1986. The early months of 1987 in-

dicate that the problems anticipated for auto sales are occurring and the rest of consumption expenditures are weaker than earlier projected.

The early months of 1987 indicate that the problems anticipated for auto sales are occurring and the rest of consumption expenditures are weaker than earlier projected.

Unit auto sales in the first quarter of 1987 averaged 9.4 million units at an annual rate, and early data for April and May indicate a continuation of that trend. There has been a decline in the sales of imports because import prices have risen as the dollar has depreciated. However, the decline in import sales has not translated into an increase in sales of domestics. We have just completed four straight years of sales in excess of 10 million units per year, and so replacement demand is low. In addition, sales incentives were so extensive last year that there is little room for more attractive terms. We think the poor performance in the auto sector will continue through the year and that total unit sales will be only 9.4 million in 1987.

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Other Consumption Spending

Outside of the auto sector, constant dollar consumption expenditures rose at only 2.3% in the first quarter of 1987. Fuel oil, coal, electricity, and gas all declined, in part because of the mild winter in much of the country. While that decline is probably temporary, we now expect real consumption expenditures, other than autos, to increase only 2.8% in 1987, primarily because the overall growth of the economy appears to be less than expected last winter. In particular, the long-awaited push from an improving trade picture still has not arrived. Until it does, income growth is likely to be slow, and growth in consumption expenditures is likely to be slow as well. □

Investment Outlook

Fred Bateman

Chairperson and Professor of Business Economics and Public Policy, Indiana University School of Business

In our projection last fall (December 1986 *IBR*), we forecast that investment might prove to be the poorest performing sector of the economy and that it might even impose a drag on an already sluggish economic performance. Thus far, our dreary outlook unfortunately seems to have been accurate.

Total Fixed Investment. During the first quarter, total fixed investment dropped $18.3 billion (annual rate) below its level in the previous quarter. The primary source of this decline was nonresidential investment, which was 3.7% less than its level in the fourth quarter. In fact, nonresidential fixed investment slid early in 1987 to an absolute level lower than at any time during the past two years. Residential investment, while not slipping to nearly the same extent, nevertheless declined by $1 billion over the last two quarters.

Nonresidential fixed investment slid early in 1987 to an absolute level lower than at any time during the past two years.

Inventories. The only component of gross private domestic investment that increased during the first three months of 1987 was business inventories, which grew by almost $33 billion after declining by an almost equal amount during the last half of 1986.

New Plant and Equipment. Two specific areas deserve mention. First, planned expenditures on new plant and equipment were down $5 billion between the fourth quarter of 1986 and the first quarter of this year. Most of this decline occurred in the manufacturing sector. Despite this development, forecasters still project that spending for the entire year will slightly exceed that for 1986.

Construction. Second, new residential construction dropped by 1% ($4 billion) and nonresidential by 4% ($3.5 billion) between the past two quarters. These early results generally accord with our forecast made last fall.

Tax Laws. It is still too early to evaluate the effect of the new tax laws on investment, although we are probably witnessing the beginnings of an adjustment, particularly in new construction of apartment units. It is also too early to evaluate the overall economic effects of the first year of the revised tax code. Assuming, however, that no major changes in rates or new loopholes are introduced by the Congress, we still believe that the long-term economic effects will be beneficial. □

Government Fiscal and Monetary Policy and Inflation

George W. Wilson

Distinguished Professor of Economics and Public Policy, Indiana University School of Business

Federal government fiscal policy continues to be preoccupied with efforts to reduce the deficit, regardless of the state of the economy. The Gramm-Rudman

proposals have set out specific deficit targets (see last column of the **Table**). The aim is to eliminate deficits by 1991.

Adhering to the schedule has elicited howls of anguish, ranging from "it can't be done" to "we'll have to raise taxes" and or "expenditures will have to be cut even more." The consequences of the last two approaches are widely believed to be serious and adverse for the future growth of the economy and for particular groups within it. Such actions might be distinctly counterproductive or not worth the costs to society relative to the benefits of deficit reduction.

Eliminating the Deficit

However, it can be shown that on reasonable assumptions and behavior consistent with recent and expected performance of the economy and the federal sector itself, the deficit can be eliminated by 1991 without raising taxes or cutting programs further.

For example, the economy should be able to grow about 3 to 3 1/2% in 1987 and to sustain this over the next several years. At the same time, growth will tend to use up excess capacity and push up prices. A rate of inflation of, say, 4 to 4 1/2% over the near term could readily be anticipated. Thus, *nominal* GNP could easily rise by 7 to 7 1/2%. Because budget receipts are sensitive to nominal growth, they should increase at about the same rate. Rates of increase of federal expenditures (both off and on-budget outlays) have decreased steadily from about 17% to below 2% per year in the first five months of fiscal 1987. If budget outlays can be held to a growth rate of 3% per year and if receipts rise by 7 1/2% per year, the results would be those shown in the table.

We can "grow out" of the deficit by a perpetuation of recent experience and trends.

In short, contrary to popular views, we can "grow out" of the deficit by a perpetuation of recent experience and trends. It can be done by the Gramm-Rudman deadline, though not following the same year-by-year path. Thus, the deficit can be expected to dwindle as a focus of national concern or near hysteria in some circles.

When this fact filters through the national psyche, particularly the psyche of those who dominate the financial markets, inflation expectations should decrease and real interest rates should fall—at least from this source alone. Doubtless, other sources will emerge to push inflation expectations up and "justify" a higher spread between nominal interest rates and a realistic inflation outlook. But it can be hoped that the bogey of the deficit will have evaporated as a rationale not only for high real interest rates but also for paralyzing fiscal policy and, in the view of some, contributing to the foreign trade deficit.

The Declining Dollar

Monetary policy has recently been partially sidetracked with concern over the foreign exchange rate situation. Such a concern, if translated into action, would dictate efforts to induce a rise in real interest rates and thus risk a recession. In addition, the Fed is unlikely to be able to do much to reverse the fall in the value of the dollar. Nor is it clear that the dollar should not decline some more for a while longer. The Fed's distraction with the dollar is understandable but, on balance, one may forecast a quick return to a policy of moderate ease, if, indeed, the Fed ever left such a policy despite recent statements.

Finally, inflationary pressures seem to be on the rise. Substantial increases in a broad range of commodity price futures have helped fuel expectations even further. The prospect of poor crops this summer and other supply shortages undergird such beliefs.

The Fed's policy has been quite accommodative—perhaps too much so in light of recent restraint, following 16% growth in M1 between the first quarter of 1986 and 1987, along with persistent talk about the need to raise the discount rate to 6 or 6 1/2%. Yet there is still much slack in the economy, although it is diminishing.

Sooner or later, as growth continues, supply bottlenecks will occur. But this is several years away. In the meantime, actual inflation during 1987 should be slightly higher than in the recent past—possibly in the 4 to 4 1/2% range, as suggested above. ☐

U.S. Government Receipts and Outlays (in Billions of Dollars)

Fiscal Year	*Receipts*	*Outlays*	*Deficit*	*Gramm-Rudman Deficit Goals*
1986 (actual)	769.1	989.8	220.7	172
1987 (estimated)	842.4	1,015.6	173.2	144
1988 (projected)	905.6	1,046.1	140.5	108
1989 "	973.5	1,077.5	104.0	72
1990 "	1,046.5	1,109.8	63.3	36
1991 "	1,125.0	1,143.1	18.1	0
1992 "	1,209.4	1,177.4	32.0	—

[1] Estimates by Department of Treasury and OMB, January 1987.
[2] Projected on assumptions in text.
Note: Table based on article by Dr. Raymond J. Saulnier in *MGIC Newsletter*, May-June 1987.

The International Economy

Michele Fratianni

Professor of Business Economics and Public Policy, Indiana University School of Business

In the December 1986 issue of the *Indiana Business Review*, we made the following points concerning the international sector of the U.S. economy:

1. The U.S. current-account deficit—the difference between exports and imports of goods and services, plus net transfers payments, plus net interest payments—was running at $150 billion in 1986;

2. Japan's and Germany's current-account surpluses were rising, both in absolute amount and as a proportion of their market-value GNP;

3. The U.S. dollar had sharply depreciated in 1986 with respect to the yen and the deutsche mark, but much less with respect to many of the currencies of the Pacific Basin countries;

4. The U.S. government position was that surplus countries such as Germany and Japan must expand to facilitate the reduction of the U.S. trade imbalance; and

5. Germany and Japan had been reluctant to follow Washington's prescriptions, first because they feared a reemergence of inflation and, secondly, because they believed that the large U.S. budget deficit was responsible for the large current-account deficit.

Six months later the basic analysis has not changed. More recent data suggest that the U.S. current account deficit was $141 billion in 1986. Fiscal policy in Japan is slightly more expansive now than it was thought then; monetary policy has become more expansive in Germany. The International Monetary Fund projects domestic spending in Europe and Japan to grow two percentage points higher than in the U.S. in 1987. This modest differential will reduce external imbalances only marginally.

In December we wrote that "our target rate for the DM/dollar is 1.80, for the yen/dollar 140." Current values of these exchange rates are very close to the projections made then. The real value of the U.S. dollar—measured in terms of relative labor costs—has returned to its 1980 level. This real depreciation of our currency is bound to reduce the U.S. trade deficit.

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It behooves us not to overlook the fact that the U.S. has now become a large debtor country. By 1991 the U.S. external debt could be as high as $900 billion. Assuming an interest rate of 8%, servicing this debt will entail annual payments to nonresidents of $72 billion, without reducing the size of the debt. This, in turn, will imply that the current account, net of the interest payments, will have to generate a surplus of $72 billion a year forever—and a much larger surplus if the U.S. intends to repay some of its foreign debt. It follows that drastic changes in external imbalances must take place in the world in the near future. Inevitably the Japanese, the other Pacific Basin countries, and the Europeans will have to accept large trade deficits as a counterpart of the required current-account surplus of the United States.

We forecast net exports of goods and services to be -$100 billion and the current-account deficit $140 billion in 1987.

Forecast. We forecast net exports of goods and services to be -$100 billion and the current-account deficit $140 billion in 1987. As for the two key exchange rates, we project the DM/dollar at 1.70 and the yen/dollar at 125-130 for the last half of 1987.

Interest Rates and Financial Markets

Ned Hill

Associate Professor of Finance, Indiana University School of Business

Interest rates are one of the most difficult parts of the economy to forecast. No single economic factor or combination of factors has proven to be a consistently good predictor of future interest rate movements.

Interest Rate Surprises

Last fall we called for rates to move up slightly during the course of the year as the economy heated up and import prices rose. We were surprised to find long-term rates moving up so sharply in the second quarter. From 9% earlier in the year, mortgage rates rose to more than 10.5%. The prime rate rose to 8.25% from the year-ending level of 7.5%.

Inflation

When long-term rates rise much more sharply than short-term rates, the culprit is usually concern about inflation. Even though the trade deficit has slowed somewhat, as predicted, many perceive that a persistent imbalance will lead to increased prices for imported goods in the future. The dollar lost much more ground against the yen than most people expected, and U.S.-Japanese trade issues seem to pose serious long-term obstacles for efforts to reduce future trade deficits. In addition, double-digit money supply increases during 1986 have led many monetarists to warn that inflation may heat up during 1987.

Couple these two factors with a mildly expanding economy adding to the demand for borrowed funds, and it is not hard to see that interest rates will experience some upward pressure.

Indiana's Economy: Lagging Behind the U.S. But Not Declining

Richard L. Pfister

Professor of Applied Urban Economics, Indiana University School of Business

Although the U.S. economy appears headed for slightly stronger growth than forecast last December, the Indiana economy appears headed for slightly weaker growth. Weak activity at the national level in auto production, in housing construction, and in nonresidential fixed investment has had a depressing effect on several of Indiana's major manufacturing activities. In addition, agriculture remains in the doldrums. As a result of these conditions, Indiana's growth rate continues to fall a little farther behind the U.S. rate.

Indiana's growth rate continues to fall a little farther behind the U.S. rate.

We now expect real personal income in Indiana to grow by 1.4% during 1987 (fourth quarter of 1986 to fourth quarter of 1987) rather than the 1.8% we expected last December. The difference is small, but it does indicate a slightly softer economy than we expected last December.

We now expect real personal income in Indiana to grow by 1.4% during 1987 rather than the 1.8% we expected last December.

Our current estimate for employment growth over the four-quarter period (1986:4 to 1987:4) is about 30,000 jobs, which is 1.3%. Last December we thought that manufacturing employment would hold its own in 1987, but we now expect a decline of about 1.5%. The most significant change since last December is a weaker auto sector. Still, the decline in manufacturing employment for 1987 should be the smallest one since 1984. Nonmanufacturing employment will continue to increase but at a slower rate than in recent years.

Although the Indiana forecast is for slow growth, it is nevertheless for continued growth and not for decline. There is, of course, some threat of a national recession, which would certainly cause a recession in Indiana. But the indicators suggest that the most probable path is continued slow growth for both the U.S. and Indiana.

Even with slow growth, labor markets should get tighter because of the even slower growth of the labor force. Thus, unemployment rates should decline as the slow economic growth continues. □

Some factors, however, give cause for hope that rates will not move too high. First, most other industrialized countries are entering into periods of lower inflation. It would be unusual for the U.S. to experience high inflation when most of its trading partners are not. Second, wage settlements in recent years have shown only modest increases in wage rates. Third, though inflation-phobes have pointed to recent commodity price increases as harbingers of inflation, most believe that such increases were more speculative and short-lasting than genuine indicators of higher prices to come.

Interest Rate Forecast

On balance, we are not as concerned about inflation as some economists. We hold to the general tenor of our December forecast. Rates should move up as the economy gradually expands. Long-term rates may level off one percentage point higher than our initial estimate of an 8.5% to 10% range. The prime should not move much above 8.5% for the remainder of 1987.

Stock Market

The strength of the stock market surprised us and many others during the first quarter. The market may continue relatively strong throughout the year, with numerous dramatic swings resulting from program trading and uncertainties in the world economy. We would not expect the Dow to be above 2,400 by the end of the year. There is a good chance that a major correction will occur in the last half of the year.

Housing Starts

Increased mortgage rates will dampen the housing market from our initial estimate of 1.7-1.8 million starts to about 1.6-1.7. Changes in the tax laws have seriously retarded the pace of the rental housing and commercial construction markets. Both sectors are likely to remain substantially below their 1986 levels through at least the end of this year. □

indianapolis

Robert Kirk

Professor of Economics, Indiana University-Purdue University at Indianapolis. Data assistance provided by Ron Martin, Indiana Employment Security Division.

The forecasting question is, Can the Indianapolis economy maintain its momentum as:

- Monetary policy tightens to stabilize the exchange value of the dollar;
- Fiscal policy tightens a little to reduce the federal deficit; and
- The consumer expects to be enticed by various kinds of sales incentives?

Because the performance of the national economy is the primary influence on the performance of the Indianapolis economy, expected moderate national growth implies moderate growth for Indianapolis.

The Automobile Industry

Incentives to consumers to buy cars seem to be necessary as inventories build for particular models. An additional uncertainty is the expiration of GM and Ford labor contracts on September 14 in both the U.S. and

Canada. (Chrysler's contract in Canada also ends on September 14.) If carmakers build inventory in anticipation of a strike, production could be maintained at a level greater than justified by current consumer demand. However, if a strike does not materialize, then layoffs to reduce inventory could occur.

On the demand side, volatility in new-car sales may increase as the auto replacement decision is motivated more by changes in consumer tastes than the wearing out of the automobile. Therefore, the number of new models—and the consumer's acceptance of these models—could greatly influence production levels.

On the supply side, the automobile industry is undergoing a decline in vertical integration. When applied to the auto industry, vertical integration means that the automaker makes most of its parts rather than buying from independent suppliers. GM has been the most vertically integrated of the Big Three. The purpose of the decline in vertical integration is to reduce costs and increase flexibility. A consequence of abandoning vertical integration is the loss of jobs in the auto industry.

However, this loss may be offset by an increase in the auto parts supplier industry. The Indianapolis metropolitan area has attracted some of the supplier firms. Indianapolis, along with the rest of Indiana, is attempting to attract primary suppliers (who work directly with automakers) and other suppliers (who work directly with primary suppliers).

Certainly, central Indiana has a strategic location for continuing to supply parts to the Big Three, as well as to the newly transplanted Japanese automakers who are building plants in and around Indiana.

Construction

One of the sectors that has been a source of strength during the expansion beginning in 1983 has been construction. During the forecast period, new projects (such as the Westin Hotel and Bank One) and continuing projects (such as the addition to the Indiana University Medical Science Building) will support construction employment.

However, construction is not expected to remain an important source of increased employment. Vacancy rates are increasing in the residential sector, especially in multifamily housing. When the units under construction are added to the vacant units, the number to be absorbed is at the highest level of the 1980s. Although the single-family detached-unit market is in better demand-supply balance, that situation could change because of upward pressure on mortgage rates. New single-family housing construction continues to be focused in northeastern Marion County and in Hamilton and Johnson Counties. The demand for downtown housing will be tested this fall with the completion of more than 500 apartment units north of the IUPUI campus.

New single-family housing construction continues to be focused in northeastern Marion County and in Hamilton and Johnson Counties.

As new office buildings are completed, business for moving companies should be good as existing firms relocate in the new space, causing vacancies in existing space. To maintain occupancy rates in existing space, building owners will need to renovate, provide financial incentives, or sell out. The preferred scenario would be to attract national firms to locate regional offices in Indianapolis office buildings—new and existing—because of

- The increased visibility derived from events such as the Pan Am Games;
- Good access to major markets; and
- Low operating costs.

It would be even better if national headquarters might be induced to locate in Indianapolis, following the pattern of the amateur sports organizations who will be moving into the new Pan Am Plaza Building. The commitment to improving public education made by the Indiana General Assembly following the initiative of Governor Orr should send a signal nationally that Indiana is committed to improving the quality of its human capital resource.

The Tale of Two Cities (and a Few Others)

Boston has received considerable press coverage because of its low unemployment rate (as well as its high housing prices). However, the unemployment rate is only part of the story. As **Table 1** indicates, Boston's low unemployment rate is due in part to a slow rate of growth in its labor force. In-

Table 1
Unemployment Rates and Labor Force and Employment Growth Rates for Selected Metropolitan Areas, 1985: 4Q to 1986: 4Q

	Unemployment Rate		*Labor Force Percent Change, 1985: 4Q to 1986: 4Q*	*Employment Percent Change, 1985: 4Q to 1986: 4Q*
Metropolitan area	*1985*	*1986*		
Boston	3.1	2.9	0.1	0.3
INDIANAPOLIS	**5.6**	**4.7**	**0.4**	**1.4**
Chicago	8.1	6.5	−0.5	1.2
St. Louis	6.9	6.9	4.3	4.3
Cincinnati	7.1	5.9	3.0	4.2
Columbus, Ohio	6.4	5.7	1.4	2.1

Source: U.S. Department of Labor, *Employment and Earnings*.
Note: Employment is based on residence.

Table 2
Change in Total Employment, Manufacturing Employment, and Nonmanufacturing Employment for Selected Metropolitan Areas, 1985: 4Q to 1986: 4Q (in Percent)

Area	*Total*	*Mfg*	*Nonmfg*
Boston	1.6	-9.4	0.2
INDIANAPOLIS	**2.5**	**0.0**	**5.3**
Chicago	3.7	3.7	5.5
St. Louis	1.8	3.7	3.3
Cincinnati	4.4	0.2	5.7
Columbus, Ohio	5.3	-0.9	6.6

Source: U.S. Department of Labor, *Employment and Earnings*.
Note: Employment is based on place of work.

dianapolis has a relatively low unemployment rate too.

The change in the unemployment rate is based on the relative changes in the labor force and employment. When the percent change in employment is greater than for the labor force, the unemployment rate falls. Because the employment change was greater for Indianapolis than the labor force change, the unemployment rate declined. For St. Louis, the change in labor force and in employment were the same, so the unemployment rate remained constant. When unemployment rates are as low as Boston's, there is upward pressure on wage rates and employers have to import workers.

The commitment to improving public education made by the Indiana General Assembly following the initiative of Governor Orr should send a signal nationally that Indiana is committed to improving the quality of its human capital resource.

Table 2 examines employment change for selected metropolitan areas by place of work. From the fourth quarter of 1985 to the fourth quarter of 1986, there was quite a range of performance, especially in the manufacturing sector. The fall in the exchange value of the dollar should stimulate orders for Indianapolis' manufacturing exports. However, these employment gains may be offset by the phaseout of the RCA plant by the end of 1987 and the Chrysler plant in 1988.

The nonmanufacturing sector will again provide the bulk of the employment increase. However, because we are in the fifth year of the business cycle expansion, we have seen the entry of many firms. Strong competitive forces exist. Because some of the new firms will be taking the place of firms that failed to differentiate their products in the market, net increases in employment will be increasingly difficult to achieve. Total employment is forecast to increase 2 to 2.5%. □

Muncie

Robert Jost

Professor of Economics, Ball State University

Not unlike the nation's economy, Muncie's recovery has slowed, but it still continues. From March 1983 through March 1985 establishment employment grew at an annual rate of 3.7%, but it slowed to a 2.2% annualized rate of growth from March 1985 through March 1987.

Slow Growth

Muncie's growth may be slower, but its establishment employment now surpasses Anderson's by some 2,200 workers—the largest differential since the recovery commenced. This may appear rather paradoxical, given Anderson's more robust recovery (as discussed in the December 1986 *IBR*). However, the pronounced slowdown in motor vehicle sales, particularly those of General Motors, following the freshet of tax law-induced sales in late 1986, fell with greater incidence on the Anderson community. Additionally, the 1981-82 recession hit Anderson with greater severity than Muncie, thereby leaving Anderson with a lower base from which to initiate expansion.

Of course, the perennial "U" in establishment employment that occurs in Muncie for the months of June through August, associated with the summer decline in Ball State University educational services, will appear to close the differential. Come September, however, the hiatus between the two time series should favor Muncie by even more.

In perspective, it should be noted that Anderson's establishment employment in 1979 exceeded Muncie's by approximately 2,000 workers. Muncie's relative gain relates heavily to its lesser dependence on durable goods manufacturing, the greater diversity of its economy, and the ability of Ball State University to maintain student enrollment at near record levels.

Pockets of Economic Malaise

Establishment employment in manufacturing declined at an annual rate of 4% from 1979 through 1986 in the Muncie MSA, but the decline had slowed to an annualized rate of 1.3% for the 1985-86 time frame. For Anderson, the decline was even more precipitous (see December 1986 *IBR*).

The debate between businesspeople, economists, and, for that matter, economists themselves over the competitiveness of U.S. manufacturing is by no means resolved.[1] But all parties can agree that specific communities such as Anderson and Muncie have experienced a most tortured travail that cannot be explained solely in terms of cyclical vicissitudes.

The fact remains that U.S. consumption of all types of durable goods, as a percentage of GNP, has increased since World War

1. See, for example, the January-February 1987 issue of the *New England Economic Review*, published by the Federal Reserve Bank of Boston.

II, particularly since 1978. However, the U.S. production share of durable goods consumed has declined as a growing flood of imports made up the differential. In industries such as motor vehicles and parts, Japan has maintained a commanding productivity lead, and lesser developed countries, with initial productivity disadvantages but much lower labor compensation, have also managed to capture a significant portion of the U.S. market.

Thus, while employment in Indiana has improved more than in other Midwestern "rustbelt" states, pockets of economic malaise persist, as in the Muncie and Anderson MSAs, where establishment employment runs well below the 1979 levels.

While employment in Indiana has improved more than in other Midwestern "rustbelt" states, pockets of economic malaise persist, as in the Muncie and Anderson MSAs, where establishment employment runs well below the 1979 levels.

Horizon 91

Muncie civic leaders have been hard at work in their endeavors to reverse the downward course of the Muncie economy. They are marketing an economic development program called Horizon 91. This seven-year program, which represents a partnership between business, government, labor, and Ball State University, was launched more than two years ago. Its ambitious goal is to create several thousand new jobs by 1991. Horizon 91 is currently running well ahead of schedule and has raised the relatively large sum of $4.2 million. Half that amount is to be spent retaining and expanding existing businesses, 25% is to attract businesses from outside of the Muncie MSA, and the remainder is to be invested in new entrepreneurial ventures.

Volunteer officials claim to have helped to create some 335 basic-income jobs thus far, aided local manufacturers in their expansion plans, and participated in the planning of the downtown renovation of the Radisson Hotel, Civic Center, and the new bus transfer station. Obviously, only the future will reveal how successful Horizon 91 is in attaining its goals.

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Success in developing modern competitive manufacturing facilities is more probable where:

- **Several existing firms are relatively strong in a particular field,** thereby providing a foundation for expanding and upgrading traditional strengths;
- **Technical and graduate-level engineering expertise is available** from a nearby educational facility;
- **Imaginative local bankers** are willing to assume much of the financial risk associated with entrepreneurial ventures;
- **Local and state governments cooperate,** even to the extent of supplementing private venture capital; and
- **Organized labor** has a cooperative and flexible attitude.

How does Horizon 91 measure up when appraised by these criteria?

1. Strong existing firms. The myriad machine tool and die businesses that frequent the Muncie scene possess highly skilled labor that for generations has known the meaning of a thousandth of an inch. Several of these stronger firms are suppliers to the motor vehicle industry. Additionally, large investments in new capital goods have been made in recent years in some of Muncie's larger motor vehicle plants—for example, Warner Gear has at least partially upgraded production facilities.

Firms such as these could provide the locus for upgrading Muncie's traditional strengths. Obviously, much additional investment in the latest technology would be necessary to make these firms truly competitive.

2. Expertise. Ball State has pledged some $260,000 in services to Horizon 91 in the form of management expertise, computer accessibility, feasibility studies, and industrial technology. Unfortunately, BSU lacks the graduate engineering expertise that is an important ingredient in the growth equation. It is not purely coincidental that the Japanese chose to build their first auto assembly plant in Lafayette, which possesses the best graduate engineering program in the state.

Few people are aware that the fastest growing high-tech corridor in America is now a 40-mile strip in Michigan that connects Detroit with Ann Arbor. Two-thirds of all the robots and precision manufacturing tools produced in America are turned out in this small area, which can draw upon the expertise of nine nearby graduate engineering schools.

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By utilizing the latest technology in automation and flexible machine tools, direct labor costs can frequently be reduced to 5 to 15% of manufacturing production costs. When this happens, plants no longer move to the south or overseas in search of "cheap" labor.

A large number of graduate engineers reside in Muncie and Anderson, and there are no insurmountable obstacles preventing BSU from serving their needs in terms of graduate engineering offerings.

2. See *The Economist*, April 11-17, 1987, p. 15.

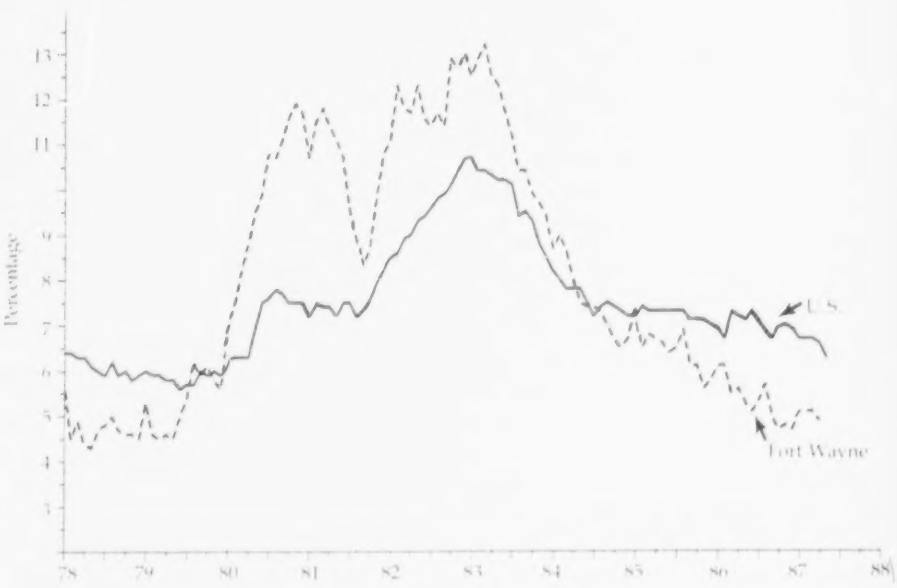
3. Imaginative bankers. Even if Muncie banking was ultraconservative in supplying venture capital in the past, a local bank president currently plays a major role in spearheading Horizon 91, and venture capital has been forthcoming.

4. Government cooperation. Both the local and state governments have enthusiastically backed Horizon 91. Not only have they participated in the planning, but they also have provided substantial financial support.

5. Union cooperation. Labor union officials have participated in Horizon 91 and have acknowledged the need to improve Muncie's labor reputation, which many feel does not do justice to the quality of Muncie's labor force.

One would have to be sanguine indeed to believe that the ambitious goals of Horizon 91 will be realized. Still, the achievements of the program during its first two years are impressive. Given the economic exigencies confronting Muncie during the last several years, Horizon 91 represents a bold and noble endeavor. Its success will require the best efforts of all participants—and a goodly amount of luck.

A Comparison of Unemployment Rates for the U.S. and the Fort Wayne Metropolitan Statistical Area, 1978-1987



Source: Data from U.S. Department of Labor and Indiana Employment Security Division.

Fort Wayne

Thomas L. Guthrie

Director of the Office of Community and Institutional Research and Associate Professor of Business and Economics, Indiana University-Purdue University at Fort Wayne

The original 1987 economic forecast for the Fort Wayne area remains essentially intact, especially with respect to the proposed primary determinants of the economy's performance.

The Forecast in Review

Employment in the metropolitan area, which consists of Allen, DeKalb, and Wells Counties, was forecast to increase approximately 1%—slightly less than 2,000—in 1987 (December 1986 *IBR*, p. 14). Employment jumped 3,200 in January alone, but from February through April it has been stagnant. The results through April are as tepid as the forecast.

It must be stressed that recent employment figures are always preliminary. For example, the first revision of 1986 employment data resulted in an increase of 2,100 over the course of the year. Therefore, the potential for error in the preliminary employment data is larger than the forecast change in employment for 1987. The revised data showed employment increasing 4.2% from December 1985 to December 1986. The original forecast was 4%.

The original forecast noted that defense-related employers in the area would not be a source of economic strength in 1987 because of federal budget cuts in defense spending. Both Magnavox and ITT have had minor layoffs already, although ITT stressed that its layoffs were related to contract payment problems.

The original forecast was for agriculture to "remain severely depressed." Agricultural commodity prices have shown a glimmer of life recently, but the price increases will need to hold for an extended period before farmers will upgrade purchasing plans.

Most important to the region, U.S. auto and truck sales to date appear lackluster, as forecast. This is after smoothing the peaks

and valleys in the sales pattern resulting from the presence or absence of sales incentives. Upcoming labor negotiations this fall may create additional volatility in production schedules.

Agricultural commodity prices have shown a glimmer of life recently, but the price increases will need to hold for an extended period before farmers will upgrade purchasing plans.

The one bright prospect forecast for the regional economy was increased exports, and recent trade statistics suggest that the drop in the exchange rate of the dollar is finally beginning to work its magic at the national level. The expected positive effect on the manufacturing portion of the area economy should be occurring, but reliable data sources for verifying the pickup are difficult to identify.

New Concerns: Interest Rates and Labor Availability

The significant upturns in both long-term and short-term interest rates are the only significant economic events occurring to date in 1987 that were not addressed in the original forecasts. What typically kills an expansion are a shortage of credit (at reasonable rates), production capacity, and or labor. The interest-rate increases to date don't appear lethal, but they do present a new concern.

It has been so long since labor availability has been a problem that we tend to forget about it.

It has been so long since labor availability has been a problem that we tend to forget about it. But the accompanying chart suggests that it may be time to consider the question with respect to the Fort Wayne area. The area unemployment rate in March was 4.9%, after seasonal adjustment, and the gap between the U.S. and area unemployment rates continues to widen.

Terre Haute

Marvin Fischbaum

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Over the past three years various firms and industries in Terre Haute experienced dramatic changes in fortune and in prospects, but the aggregate level of economic activity showed little discernible movement. That situation, which could be characterized as either a plateau or stagnation, is likely to continue through 1987. However, recent developments have on balance been favorable, and for the longer term the outlook has improved.

Employment

For the past year the Terre Haute MSA unemployment rate has been running close to state and national levels. Seasonally adjusted, the local rate for March stood at 6.3%. Over the past three years changes in the total level of establishment employment have been minor, with gains in service employment offsetting in numbers, if not in payroll, losses in manufacturing. However, a substantial drop in the estimated labor force and a concomitant reduction in the unemployment rate occurred during 1985. One has the distinct impression that the Terre Haute area labor market remains rather soft and that the unemployment rate presents an overly sanguine picture.

Manufacturing employment continued its secular decline. J. I. Case is in the process of completing its shutdown of Terre Haute operations. Indiana Gas and Chemical, known as "the coke plant," announced an indefinite layoff of two-thirds of its work force. The firm noted that its output is sold mostly to foundries and that Terre Haute, which once had 18 foundries, now has just one.

On a rather more positive note, IMC will go ahead with a major expansion of its Terre Haute operations. It will invest $50 million in a plant to produce Porcine Somatotropin, a chemical that makes hogs grow faster and leaner. When running, in 1989, the plant should employ 65 to 80 technical and skilled workers.

Sales

Weak sales point to continuing softness in the local economy. The real estate market remains depressed. Even the decline in interest rates to cyclical lows failed to provide much spark, with the average house still selling for less than $45,000. It is slightly easier to sell a house now than it was either a year ago or during the previous six years, but the proposition remains appallingly more difficult than it was in the 1970s.

Nor does it appear to be an easy task to sell any big-ticket item. The roster of retail establishments shrank as two television and electronics stores closed; a major supplier of consumer electronics drastically consolidated operations; a furniture store that had been a Terre Haute institution was forced into liquidation; and the town's fashion department store shut its oldest branch. Car sales have become difficult.

The long depression in agriculture clearly has had an impact on Terre Haute and adjacent counties.

Agriculture

Much local economic activity is tied to agriculture. For example, the coke from Indiana Gas and Chemical went to foundries that made castings for agricultural implements. The long depression in agriculture clearly has had an impact on Terre Haute and adjacent counties. There have been some hopeful signs. After a sickening fall, land prices have stabilized. Hog producers have fared quite well lately, and beef pro-

ducers made money. Grain and soybean prices, while still quite low, have been edging upward. Of course it is premature to say that a major turn is at hand; the agriculture people at Purdue are pessimistic, seeing recent events as just a blip.

Construction

Construction activity clearly has come out of its doldrums. The Dodge reports show first-quarter residential contracts more than doubling, and first-quarter nonresidential contracts more than tripled the value of the corresponding period in 1986. Since March the IMC plant, new school buildings, and new construction on the Indiana State University campus have been announced, assuring continued strong construction activity through 1988.

Evergreen Express

The most recent, interesting, controversial, and promising news relates to transportation. Evergreen Express, under contract to the U.S. Postal Service, has chosen Terre Haute as a hub for express mail. Contracts were signed the evening of May 20, and operations commenced June 8. In the intervening two-and-a-half weeks the city converted a building designed to store snow-removal equipment into a mail-sorting facility, and a 25,000-square-foot addition was built from the ground up.

Evergreen Express envisions the possibility of dramatic future expansion, even to the point of becoming the community's largest employer. The firm also points out the possibilities for substantial positive spin-offs.

The hub was to have been located at Smyrna, Tennessee, but it ran into concern about noise pollution. Terre Haute moved quickly and aggressively to capture the enterprise, dangling as bait willingness to underwrite the expense of modifying the building and to assume liability in lawsuits that might arise.

Initially, 180 mail sorters and cargo handlers are employed, with two-thirds working part-time. The contract with the Postal Service runs for two years, with an option for renewal for two additional years.

Evergreen Express envisions the possibility of dramatic future expansion, even to the point of becoming the community's largest employer. The firm also points out the possibilities for substantial positive spin-offs. Where speedy distribution is important, Terre Haute could gain a location advantage. Evergreen Express believes that noise will not be a major problem at the Hulman Field site. Time will tell.

In the long run Porcine Somatotropin will boost the Terre Haute economy somewhat and Evergreen Express may boost it a good deal. For the months ahead, increased employment from these sources will not quite counteract the loss of employment at J. I. Case and at Indiana Gas and Chemical, and the Terre Haute economy is likely to remain where it has been.

Gary/ Hammond/ East Chicago (Calumet Area)

Leslie P. Singer

Professor and Coordinator of Economics, Indiana University Northwest

The USX Steel strike having been settled, it is time to take stock of the northwest Indiana economy. Where are we going, and what structural changes can we expect in the future?

A Restructured Economy

The loss of nearly 50,000 steel jobs in eight years—57.6% of the area's peak employment in steel—has radically changed the structure of the economy of northwest Indiana. For most of the present century the Calumet region had an export-driven economy, like Japan's. The buoyant steel market caused expansion in other steel-related industries. New settlers were attracted to the Calumet region, which caused booms in real estate, financial services, banking, and retail and wholesale trade.

The loss of nearly 50,000 steel jobs in eight years—57.6% of the area's peak employment in steel—has radically changed the structure of the economy of northwest Indiana.

The high employment and high wages in steel, petroleum, and related manufacturing have been drastically reduced. However, the erstwhile booming economy has left behind a large group of retirees drawing generous pensions. Their incomes, along with federal and state welfare expenditures, provide for continued moderate expansion in the nonmanufacturing sectors, specifically in health care, insurance, and financial and legal services.

As this aging population is exhausted or leaves the area for more clement climates, the Calumet region will fall back on a more traditional economic structure, where the export sector must provide the primary income flow for regional economic development.

In this regard our long-run economic analyses raise several potential concerns. Steel production in the Calumet region has receded less than steel production nationally. While the area lost about 58% of its employment in steel, nationally steel employment fell almost 77%. The Calumet region had the more recent and consequently the more productive steel plants. There were no major plant closings in this area (with the possible exception of the ancient South

Works). Steelmakers here have invested upward of $1.5 billion in new and improved production capacity from 1982 to 1986. The hope was that steel employment would at last stabilize at around 32,500 jobs and then would slowly begin to rise as the falling dollar would make steel imports more expensive and U.S. exports more attractive to foreign buyers.

Our latest revisions indicate that we had overestimated the growth in regional employment by just under 1%—not bad for a forecast. However, the flat projection, if accurate, does not bode well for the future.

It appears that greenfield plants (that is, plants built from scratch), which were shunned in the past, are again favored by some of the new technologies in steel production. This will make the Calumet region, with its old and inefficient plant layouts, unattractive for further modernization and expansion.

It is not unreasonable to assume that new manufacturing installations—in both steel and other products—will be undertaken in geographical locations extending east and south of the Calumet region, in the proximity of I-65 and I-94.

Entrepreneurship and the Calumet Region

Thus, the Calumet region, like Japan, will have to rely more on its own domestic resources for economic expansion. There never was a dearth of entrepreneurial talent in this region, much of it still concentrated in the Anglo-Saxon and East European ethnic populations. Latin and Black entrepreneurship, while lagging, has shown significant advances. For example, 46 of 55 major supermarkets in the area are owned and operated by 13 local entrepreneurs, and 79.6% of all nonfood retail space is operated by local entrepreneurs.

However, the direction of the entrepreneurial thrust will favor Porter County over Lake County. In Lake County, the three major urban centers are likely to experience relative stagnation in comparison to the 15 towns and unincorporated areas in the county. These towns and unincorporated areas now have a combined population of about 240,000 and soon will claim half of the total Lake County population. South Lake County now accounts for close to 90% of all the new commercial space built in the county.

A New Export Sector

In the final analysis, solid growth can be induced only by a new export sector. At present Lake and Porter Counties export human resources as well as steel and manufactured goods. Human resources earn incomes in the Chicago metropolitan area as well as in the collar counties in Illinois where much new industry is located. The incomes are subsequently spent in South Lake County and elsewhere in the region. The incomes from the export of human resources fuel the domestic service sector.

There has been a gradual increase in exports of human resources. The official establishment and employment figures reported by the Indiana Employment Security Division (see **Table**) tend to under-

Northwest Indiana Quarterly Employment
(In Thousands of Employees, Adjusted for Nonrecurring Events)

	Actual Employment					*Projected Employment*					
	1986:1Q	*1986:2Q*	*1986:3Q*	*1986:4Q*	*1987:1Q*	*1987:2Q*	*1987:3Q*	*1987:4Q*	*1988:1Q*	*1988:2Q*	*1988:3Q*
Manufacturing	57.3	56.9	53.6	52.3	52.2	52.9	52.9	53.1	53.0	53.9	54.7
Steel mills	36.6	35.9	34.3	32.2	32.6	33.1	33.2	33.1	33.0	33.6	33.9
Other manufactures	18.3	18.7	16.9	17.8	17.2	17.4	17.3	17.7	17.6	17.8	18.3
Petroleum	2.4	2.3	2.4	2.3	2.4	2.4	2.4	2.3	2.4	2.5	2.5
Nonmanufacturing	153.3	160.0	160.9	160.9	156.9	160.6	163.1	162.9	160.8	161.5	162.4
Construction	9.5	13.7	14.1	13.6	10.7	12.5	13.4	12.3	11.8	11.9	12.2
Transport. utilities	13.8	13.8	13.4	13.2	13.2	13.2	13.4	13.2	13.0	12.8	13.1
Trade	48.6	50.6	50.2	50.6	49.7	50.6	50.8	51.8	51.1	51.6	52.3
Health services	18.5	18.8	18.8	18.8	19.3	19.3	19.2	19.4	19.4	19.3	19.3
Other services	32.4	33.3	33.7	33.4	33.4	34.1	33.5	33.8	33.2	33.2	34.3
Government	30.5	29.8	30.7	31.3	30.6	30.9	30.8	30.4	30.3	30.7	31.0
Total employment	210.6	216.9	214.5	213.2	209.1	213.5	216.0	216.0	213.8	215.4	217.1

Source: Data from Indiana Employment Security Division, adjusted by author for personnel on strike.
Note: Numbers may not add to totals because of rounding.

state this aspect of economic growth in the Calumet region.

Finally, there is some room for what economists call import substitution. We could produce more consumer goods in our domestic economy instead of importing these products from other regions of the U.S. or the world. We need more development of small firms operating at competitive wage-scales. Some such firms are springing up in the PMSA (Lake and Porter Counties) as well as east of the PMSA in Michigan City. When the export market served by large national firms shrinks, the income shortfall must be offset by the entry of many small firms producing goods for the local market as well as for export.

This region's dependence on the Detroit Pontiac-based automobile and bus manufacturing companies can no longer support adequate growth in local employment, particularly if a United Automobile Workers strike should occur in late 1987.

Richmond

Ashton I. Veramallay

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Richmond is now an All-American City. From a field of 76 entrants, eight were chosen by the National Civic League, which conferred this honor on Richmond on May 18. Such an honor undoubtedly will enhance the city's visibility and image at the national level as a potential site for new business ventures.

The task of improving the local economy has therefore just begun. Chronic unemployment not only distorts production possibilities but also misallocates resources. The forgone output is irrecoverable, and the social cost is sometimes exorbitant and permanent. The rights to life, food, shelter, clothing, rest, medical care, and basic education are indispensable to the protection of human dignity. Through renumerative employment and participatory opportunities people can ensure these rights and subsequently promote solidarity for the common good.

It is hoped that the All-American designation will help Richmond generate an attractive business climate for entrepreneurial activities from both within and outside her borders. Internal growth creates value-added activities which in turn stimulate employment, income, and output. Such growth represents a medium-term strategy, provided there is an adequate infrastructure to support it. For the long-term strategy it is necessary to attract external business ventures in order to create employment opportunities for young people. Otherwise, they will continue their exodus from the local community after they receive their formal education.

May the All-American City of Richmond experience sustained economic growth and development.

South Bend/ Mishawaka— Elkhart/ Goshen

John E. Peck

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Economic activity in the South Bend Mishawaka and Elkhart Goshen communities at midyear continues to reflect the relatively good conditions that prevailed at year's end both nationally and in the area economies. While the record is somewhat spotty, particularly in South Bend/Mishawaka, the 1987 area forecast (*IBR*, December 1986) calling for a period of modest growth appears, thus far, to be an accurate reflection of prevailing conditions.

The **Table** summarizes various indicators of local economic activity for the South Bend/Mishawaka and Elkhart/Goshen communities as tracked by Indiana University at South Bend's Bureau of Business and Economic Research. The figures contained in the table are seasonally adjusted and, with the exception of the unemployment rates and real estate data, are index numbers expressed as a percentage of base-year values. Comparative index numbers are given for January and February 1987. To highlight trends, index numbers are also given for a February 1987 to February 1986 comparison.

Manufacturing employment was down by 1.7% over the year. The loss of manufacturing employment has been a persistent problem in St. Joseph County in the last several years. Most of the decline is attributable to declining employment in the transportation equipment sector, particularly in automobile-related activities.

South Bend/Mishawaka

Employment figures indicate that overall employment increased by 3.5% on the year-to-year comparison. It will be noted, however, that this gain came exclusively in the area of nonmanufacturing. In fact, manufacturing employment was down by 1.7% over the year.

The loss of manufacturing employment has been a persistent problem in St. Joseph County in the last several years. Most of the decline is attributable to declining employment in the transportation equipment sector—particularly in automobile-related activities—resulting from the phaseout or relocation of local employers. When looking at month-to-month changes, however, one will note that the manufacturing employment indicator has risen in each of the

last three reporting months. Whether this movement reflects an emerging trend remains to be seen.

Other South Bend/Mishawaka indicators of note include retail car sales and housing. With respect to car sales, the predictable first-of-the-year decline can be seen in the January and February 1987 indices that rest some 50 index points below the December 1986 figure. The year-end rush to claim sales tax deductions appears to have stolen sales from the early months of 1987.

Housing has been exceptionally strong, as reflected by a very high housing-permits-issued index and favorable trends in average days listed and percentage-of-sale-to-list-price ratio for resale housing.

Elkhart/Goshen

While conditions in South Bend/Mishawaka appear to be good, people in Michiana characterize conditions in the Elkhart/Goshen area as excellent. The economy continues the steady record of growth that began in the recovery from the 1982-83 recession.

More people are employed in Elkhart County today than at any time in its history, and the addition of workers has been spread equally among manufacturing and nonmanufacturing employers. While many of the nation's industrial communities have lost manufacturing employment in recent decades, in Elkhart County more than 50% of the work force is employed in manufac-

Selected Economic Indicators for South Bend/Mishawaka and Elkhart/Goshen
(Seasonally Adjusted Index Numbers)

	South Bend/Mishawaka					*Elkhart/Goshen*				
				% Change from					*% Change from*	
	Feb. 1987	*Jan. 1987*	*Feb. 1986*	*Jan. 1987*	*Feb. 1986*	*Feb. 1987*	*Jan. 1987*	*Feb. 1986*	*Jan. 1987*	*Feb. 1986*
Employment data										
Nonagricultural employment*	122.8	122.8	118.7	0%	3.5%	181.5	181.4	171.4	.1%	5.9%
Manufacturing employment	75.0	74.7	76.3	.4%	-1.7%	163.1	163.4	155.6	-.2%	4.8%
Nonmfg. employment	150.1	149.9	143.0	.1%	5.0%	208.2	207.7	194.4	.2%	7.1%
Unemployment rate	5.6	5.2	6.0	n.app	n.app	4.9	4.0	5.4	n.app	n.app
Help wanted advertising†	127.3	130.4	100.8	-2.4%	26.3%	147.5	141.7	125.0	4.1%	18.0%
Utilities‡										
Industrial electricity sales	161.3	164.5	153.9	-1.9%	4.8%	221.3	215.8	200.1	2.5%	10.6%
Commercial gas sales	139.2	119.6	140.9	16.4%	-1.2%	180.7	142.6	180.9	26.7%	-.1%
Industrial gas sales	15.3	58.2	77.4	-73.7%	-80.2%	224.0	181.3	287.4	23.6%	-22.1%
Retail car and truck sales§										
New passenger car sales	88.8	82.5	98.9	7.6%	-10.2%	79.8	59.6	99.6	33.9%	-19.9%
New truck sales	280.9	288.6	243.7	-2.7%	15.3%	131.1	124.7	105.7	5.1%	24.0%
Housing construction data‖ #										
Estimated value of permits	143.7	132.9	857.9	8.1%	-83.2%	982.9	426.0	312.9	130.7%	214.1%
Number of permits issued	349.9	243.7	189.7	43.6%	84.4%	244.5	132.8	139.4	84.1%	75.4%
Average value per permit	432.0	551.2	473.8	-21.6%	-9.2%	337.8	401.1	213.8	-15.8%	76.7%
Residential real estate data										
Number of active listings	1077	1060	1133	1.6%	-4.9%	1049	1041	1081	.8%	-3.0%
Closed sales:										
Average days listed	50	58	62	-13.8%	-19.4%	83	82	96	1.2%	-13.5%
Average market price	$54,794	$59,264	$48,336	-7.5%	13.4%	$54,743	$54,588	$51,567	.3%	6.2%
% of sale to list price	94.5	94.0	94.4	.5%	.1%	95.0	95.0	94.0	.0%	1.1%

* South Bend 1969 = 100; Elkhart 1967 = 100
† South Bend 1967 = 100; Elkhart 1984 = 100
‡ 1967 = 100
§ South Bend 1967 = 100
‖ South Bend 1967 = 100; Elkhart 1970 = 100
St. Joseph County excluding cities of South Bend, Mishawaka, Osceola, Walkerton, and New Carlisle. Elkhart County excluding cities of Elkhart, Goshen, Nappanee, and Millersburg

turing. The largest gains in recent months have come in the recreational vehicle and furniture and fixture industries.

With respect to other Elkhart/Goshen indicators, the favorable trends reported for South Bend/Mishawaka with respect to automobile sales and housing are identical for Elkhart County. An especially mild winter and relatively low mortgage rates boosted housing activity to high levels throughout the region.

Outlook

Most forecasters continue to see moderate but steady growth in the national economy for the remainder of 1987. This overall outlook should reflect itself locally in a continuing expansion as measured by the nonagricultural employment indicator. We are expecting that index to rise by about 2% for South Bend/Mishawaka on a year-to-year basis come December 1987 and by 3 to 4% for Elkhart/Goshen. □

Evansville

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In terms of the Evansville Area Business Index, the growth rate of the Evansville economy in 1986 is revised upward to 7.2% (see **Table**), up from the 6.2% reported in the December 1986 *IBR*. Thus, the 1986 performance was the best of all years since the 1981-82 recession.

Besides the good performance for the whole regional economy, the growth was spread over all sectors in the local economy. Construction activities led other sectors by posting a record growth rate of 60.5%. Other sectors of substantial growth were industrial production (3.1%) and the financial sector (4.4%). The unemployment rate went down during 1986 from 7.8% to 6.2% by year's end.

The regional economy began with a strong first quarter, then experienced a slight dip in the second and third quarters. But substantial growth resumed in the fourth quarter. This strong momentum was carried over into the early months of 1987.

Outlook for 1987

The outlook for 1987 is still as bright as reported in the December *Indiana Business Review*. The projected growth rate for 1987 is 5.2%.

All sectors in the Evansville economy are expected to register some growth. The leading sector will still be construction, which should advance 8 or 9% from the record level of 1986. In the early months of this year, there was fear that federal funding for local projects might not be forthcoming due to Congressional inaction. By now the situation has been cleared up and the funds are available. Construction activities on Lloyd Expressway, I-164, and the new airport terminal have resumed at full tilt. One dark spot in the construction sector is residential construction. It will be slower than in 1986 because of the recent rise in mortgage rates.

Based on its strong performance from September 1986 to January 1987, industrial production should continue to grow. In spite of some offsetting factors (the shrinking share of manufacturing in total output and employment and the closing of a local TV cabinet plant), the growth rate of this sector is projected to be around 3.5%. A major labor contract was peacefully negotiated in February; without further major disturbances, the continued growth of the manufacturing sector appears certain at this time.

The trade and services sector will maintain its steady growth in 1987 at an annual rate of 2%. A growing number of retail out-

Evansville Area Business Index
(1977 = 100)

Period	*Industrial Production*	*Trade & Services*	*Construction*	*Transportation*	*Finance*	*Employment*	*Composite Index*
Quarterly Index							
1986:1Q	121.04	109.77	157.07	99.32	106.80	106.72	116.75
1986:2Q	111.58	109.97	187.75	97.95	110.23	106.20	115.91
1986:3Q	111.91	111.14	178.67	101.04	111.55	107.35	116.43
1986:4Q	123.13	111.93	174.26	99.64	111.05	109.16	120.24
Annual Index							
1983	108.14	104.10	116.09	91.36	104.60	100.71	105.41
1984	114.99	106.01	103.66	95.03	106.16	103.76	107.95
1985	113.42	108.87	108.70	99.16	105.29	106.82	109.44
1986	116.92	110.70	174.44	99.48	109.91	107.36	117.33
1987 (proj.)	121.00	113.00	190.00	100.40	113.00	108.50	123.50
Annual Growth Rate (%)							
1984:83	6.3	1.8	10.7	4.0	1.5	1.0	1.0
1985:84	1.4	2.7	4.9	4.3	0.8	2.9	1.4
1986:85	3.1	1.7	60.5	0.3	4.4	0.5	7.2
1987:86	3.5	2.1	8.8	1.0	2.8	1.1	5.2

Source: School of Business, University of Evansville

lets and revived health care activities provide a solid base of growth in this sector. Automobile sales will be slower this year as consumer debt has climbed to a record level.

The 1986 performance of the Evansville economy was the best of all years since the 1981-82 recession.

The financial sector's growth will be slightly below last year's because of higher interest rates and slowed activities in residential construction and car sales. The merger fever in financial institutions will remain high as large local banks retain their aggressive postures in a competitive financial market. The transportation sector will not advance much in 1987 due to uncompleted highway projects and the new airport terminal.

Both the labor force and employment have grown gradually in 1986 and will do so in 1987. In keeping with a national trend, the local labor market shows a relative shrinkage of manufacturing employment and an expansion of nonmanufacturing employment. In 1980 manufacturing's share of total employment was 28.8%, but it declined to 25.9% in 1985 and 24.8% in January 1987. However, part of the reduction in local employment was the result of losing jobs to the Sunbelt states and Mexico.

The growth rate projected for Evansville in 1987 is 5.2%, a rate higher than the national and state average. All sectors in the economy are expected to register some growth.

The regional unemployment rate was between 6.2% and 6.8% in the second half of 1986. The January 1987 rate was 6.5%, which was lower than the national and state levels. Throughout 1987 the rate is expected to remain in the 6.5 to 7% range.

In summary, 1987 will be another growth year for the Evansville economy, with a growth rate that is higher than the national and state averages.

Jeffersonville-New Albany (Louisville Area)

Fay Ross Greckel

Professor of Economics, Indiana University Southeast

The Louisville metropolitan area economy continued to move ahead on most fronts throughout 1986 and the first few months of 1987. As in the last several outlook articles, the prognosis is for moderate, though uneven, growth in the months ahead.

Employment

The seven-county metropolitan area provided about 11,000 more jobs in 1986 than in 1985. The additional jobs contributed to a decline in the estimated unemployment rate for residents of this area from 8% in 1985 to 7% in 1986, matching the national unemployment rate.

The employment data in **Table 1,** which have been adjusted to eliminate the effects of normal seasonal fluctuations, show some encouraging trends. The growth in the number of nonagricultural jobs accelerated

Table 1
Louisville Area Employment and Unemployment in Thousands, 1984-87[1]

Louisville Metropolitan Area[2]	*Total Nonfarm Employment*	*Manufacturing Employment*	*Nonmanufacturing Employment*	*Unemployment Rate*
Annual Averages				
1984	396.7	89.2	307.6	8.6%
1985	410.8	87.0	323.7	8.0%
1986	421.6	86.2	335.4	7.0%
Quarterly Averages				
1986:1	416.3	85.8	330.5	7.4%
1986:2	419.6	86.5	333.1	7.2%
1986:3	422.6	86.2	336.2	7.1%
1986:4	427.7	86.2	341.5	6.5%
1987:1	429.1	86.8	342.3	7.3%
Clark, Floyd, and Harrison Counties				
Annual Averages				
1984	51.4	13.0	38.4	9.2
1985	53.4	13.1	40.3	8.1
1986	55.3	13.2	42.1	6.3
Quarterly Averages				
1986:1	54.6	13.1	41.5	6.5
1986:2	55.2	13.2	42.0	6.3
1986:3	56.0	13.3	42.5	6.3
1986:4	55.8	13.3	42.4	6.2
1987:1	55.8	13.3	42.4	6.1

1. The employment data refer to establishments located within the area cited; the unemployment data refer to residents of the area. Data are seasonally adjusted.
2. Includes Clark, Floyd, and Harrison Counties in Indiana and Jefferson, Oldham, Bullitt, and Shelby Counties in Kentucky.

Sources: Indiana Employment Security Division; Kentucky Cabinet for Human Resources.

Table 2
Louisville Area Residential Building Permits, 1984-1987
(number of dwelling units)*

Period Covered	*Jefferson County, Kentucky*	*Clark County, Indiana*	*Floyd County, Indiana*	*Harrison County, Indiana*
1984	2571	237	199	89
1985	3141	232	294	148
1986	2634	252	427	218
1985: Jan.-Apr.	1406	85	126	47
1986: Jan.-Apr.	734	53	103	56
1987: Jan.-Apr.	1816	72	127	50

* Number of residential units for which building permits were issued, including single-family dwellings, apartment units, and condominium units.
Source: Kentuckiana Regional Planning and Development Agency.

during the last quarter of 1986, and the growth continued into 1987. The decline in manufacturing employment halted after the middle of last year, and manufacturing jobs increased in early 1987. Meanwhile, nonmanufacturing employment increased by about 12,000 jobs from the first quarter of 1986 to the first quarter of 1987, slightly below the growth that occurred in the previous twelve months.

For the second year in a row, Clark, Floyd, and Harrison Counties (the Indiana portion of the metropolitan area) added about 2,000 nonagricultural jobs in 1986, with small gains in manufacturing employment and more substantial growth in nonmanufacturing. However, all of the growth occurred in the first three quarters of 1986. On a seasonally adjusted basis, employment remained constant during the last months of 1986 and the first few months of 1987. Although March is the latest month for which Indiana employment data are presently available, there are indications that additional jobs will be created as 1987 progresses. One source of new jobs will be the recently announced Hitachi Cable plant, which is expected to begin operations in Floyd County by the end of this year.

The lingering effects of the recession of the early 1980s, together with long-term economic and demographic changes—such as the decline in well-paid manufacturing jobs and the growth in the number of families headed by women—resulted in increased need for social assistance despite the general economic recovery. While there is still a substantial population with serious needs, their numbers appear to be declining somewhat, rather than rising.

As one example, Dare To Care, which provides emergency food supplies in the major metropolitan area counties, reported that the number of food allotments provided reached a record 83,900 in 1985, declining to 82,200 in 1986. (The actual number of individuals provided for is less than that, because some families receive assistance two or three times within a year.) The decline is continuing: 25,700 persons received food allotments in the first four months of 1987, compared with 29,300 in the first four months of 1986.

Construction

Residential construction continued to show strength in most, but not all, sectors during 1986 and early 1987. As indicated in **Table 2**, 1986 saw a substantial increase in the number of residential building permits issued in Floyd and Harrison Counties and a moderate increase in permits issued in Clark County. Construction of apartments contributed to the increased building activity in both Floyd and Clark Counties. In Jefferson County, Kentucky, an increase in permits for single-family dwellings during 1986 was not sufficient to offset a decline in permits for apartment and condominium units, with the result that the total number of new units was 17% lower than in 1985.

During the first four months of 1987, however, Jefferson County issued permits for more new apartment and condominium units than in all of 1986; in addition, single-family-dwelling permits were running ahead of the comparable months of 1986. In fact, in the first quarter of 1987, the four counties in the Kentucky portion of the metropolitan area set a record for the dollar amount of residential construction initiated. In Indiana, Clark and Floyd Counties also recorded substantial increases in building permits during the first four months of 1987, while permits declined slightly in Harrison County.

Real Estate

The Louisville Board of Realtors reported that real estate sales totaled more than $403 million in 1986. This was about 5% higher than in 1985, although residential real estate sales increased only about 2%. It appears that 1987 sales totals thus far are running slightly lower than last year, due to the spring rise in mortgage rates.

Realty sales in southern Indiana totaled $86.5 million in 1986, a 23% increase over 1985. Sales volume during the first three months of 1987 was slightly higher than in the same period of 1986, but that was before interest rates began to rise. More recent sales data are not yet available, but there is almost certain to be some negative impact from the higher mortgage rates.

As in many other metropolitan areas, the Louisville area has had a tremendous expansion in office space in the last decade or so. In 1971 Jefferson County, which includes Louisville, had 5 million square feet of office space and a vacancy rate of 21%. By August 1986 there were 12.5 million square feet of office space, one million square feet of which had been added since the preceding August. The vacancy rate, meanwhile, had fallen to 13.7%. Despite the building of several new office towers in the last few years and the conversion of numerous other buildings, downtown Louisville—with a vacancy rate of only 11%—is in need of additional office space.

Evaluating the Indiana University Economic Forecasts: Conservative, But Generally Accurate

Plans have been announced for one, and possibly two, new office towers, but no date has been set for beginning construction.

Forecast

Forecasting local economic development is difficult because several sources are running behind in their data compilation. As a result, the economic picture for the first quarter is incomplete. Nevertheless, there appear to be more positive indications than negative ones.

Employment should continue to rise, with the total increase in 1987 approaching that of 1986. In the Indiana counties job growth will probably lag behind the rest of the metropolitan area. Unemployment may decline a little, but not so dramatically as in the last two years, since it is much closer now to what many economists view as the underlying normal unemployment rate.

One reason for considerable optimism is the record industrial and commercial development plans chronicled by the Louisville Area Chamber of Commerce. In 1986, 183 industrial firms, including some new to the area, reported plans for development or expansion totaling $313.7 million, eventually providing 2,500 new jobs. Planned expansion in the commercial sector was expected to total $295.1 million and to provide 6,200 new jobs.

Residential construction has remained stronger than expected in the wake of the new income tax provisions. It is unlikely to continue as strongly after the rise in interest rates, but no dramatic decline is anticipated unless interest rates rise much higher, which does not seem likely. It is, in fact, possible that fears of further increases in interest rates may temporarily spur housing construction and sales, although such an impact would be modest unless major inflationary fears are ignited. Since residential construction began the year so vigorously, the totals for 1987 are expected to equal or exceed those for 1986, despite some dampening effect from the interest rate rise.

Overall, then, the economy should continue to expand at a moderate pace for the remainder of 1987, as it has for the past year or two.

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How do the Indiana University economic forecasts for the years 1983 through 1986 compare with the actual figures? Just how accurate are these annual I.U. economic forecasts?

Four forecasted variables have been selected for comparison. They are:

- The unemployment rate;
- The level of annual housing starts;
- The inflation rate (as measured by changes in the Consumer Price Index [CPI]); and
- The annual changes in real Gross National Product (GNP).

These variables were estimated each year by the forecast team, they are major economic indicators, and actual data are readily available for comparison.

An evaluation is given for the degree of accuracy of each variable predicted. All evaluation is done from a business user's perspective.

Summary of Results

The most accurately forecast variable for the four years was the unemployment rate. Forecasts for both housing starts and real GNP were moderately accurate. The inflation rate was consistently overstated.

1983

Unemployment Rate

Forecast: "Unemployment should decline to 9% by the close of 1983."

Actual: The unemployment rate hit 9% in September and continued to decline; the year-end unemployment rate was 8.2%.

Evaluation: Perfect, completely accurate.

Housing Starts

Forecast: "Housing starts are expected to run between 1.25 and 1.3 million units."

Actual: Total housing starts were 1.065 million units.

Evaluation: Too conservative; moderate accuracy.

Inflation

Forecast: "The increase in the CPI for 1983 should be about 5%."

Actual: 3.5% increase in the CPI.

Evaluation: Too conservative in times of a declining inflation rate; moderate accuracy.

GNP

Forecast: "The first half of 1983 should show real improvement in the 2 to 3% range with higher (5%) increases anticipated for the second half of the year."

Actual: The change in real GNP for the first half of 1983 was 2.4%, while the second-half change was 6.2%.

Evaluation: Very good. Slightly conservative in the second half of the year, but predicting such a drastic change from the first to the second half is impressive.

The most accurately forecast variable for the four years was the unemployment rate. Forecasts for both housing starts and real GNP were moderately accurate. The inflation rate was consistently overstated.

1984

Unemployment Rate

Forecast: "The national unemployment rate should end 1984 below 8%, with 7.5% an attainable level."

Actual: The year-end unemployment rate was 7.2%.

Evaluation: Safe but very usable; very good.

Housing Starts

Forecast: "Housing starts totaling 1.8 million units are anticipated."

Actual: Total housing starts were 1.8 million.

Evaluation: Perfect.

Inflation

Forecast: "Inflation should average 5 to 6%."

Actual: Average annual inflation rate was 3.4%.

Evaluation: Moderate to poor. Again, overestimation of the inflation rate.

GNP

Forecast: "Real GNP is anticipated to advance 4 to 5%."

Actual: 6.4% growth.

Evaluation: Moderate accuracy.

1985

Unemployment Rate

Forecast: "The national unemployment rate should continue to decline, approaching 6% by the end of 1985."

Actual: January's rate was 7.3%; the year-end rate was 6.9%.

Evaluation: Very good. The trend is accurate.

Housing Starts

Forecast: "Housing starts in 1985 are expected to exceed 1.8 million units."

Actual: Housing starts numbered 1.7 million units.

Evaluation: Moderate accuracy.

Inflation

Forecast: "The rate of inflation...will probably average under 5% for the year."

Actual: Average inflation rate was 3.6%.

Evaluation: Extremely safe prediction; again a conservative overestimation of the change in CPI. Moderate accuracy.

GNP

Forecast: "Real GNP will advance about 4%."

Actual: 2.7% growth.

Evaluation: Moderate accuracy.

1986

Unemployment Rate

Forecast: "Expected to be below 7% for most of 1986."

Actual: The unemployment rate was below 7%, ranging from 6.7 to 6.9%, except for the following months:

February	7.1%
March	7.0%
April	7.0%
May	7.0%
June	7.0%

Evaluation: Very good. For 7 of 12 months, the unemployment rate was below 7%.

Housing Starts

Forecast: "1.85 million units are expected."

Actual: About 1.83 million units were started.

Evaluation: Perfect. Missed the exact number by only 1.1%. Realistically, we can't expect better than 98.9% accuracy.

Inflation

Forecast: "Continue in the moderate range of 4-5%. If oil price declines continue, an inflation rate below 4% is likely."

Actual: Began 1986 at 3.9%; finished at 1.1%, with an annual average of 1.9%.

Evaluation: Poor. Inflation rate appears to be a difficult area to forecast.

GNP

Forecast: "Real GNP is expected to increase by 3 to 4% in 1986."

Actual: 2.5% growth.

Evaluation: Moderate accuracy.

How Useful Are the Forecasts?

The forecasts are very usable for business planning for two reasons:

1. Forecast inaccuracy is normally on the conservative side. For example, in times of rapidly declining inflation rates the inflation rate is consistently forecast higher than actual. Users can take this conservative tendency into account when using the forecast.

2. Most trends are forecast in the correct directions. Rates of growth or decline may not be correctly pinpointed; however, general trends are usually forecast correctly.

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